Planning Guide FOR ATHLETIC FACILITIES

A new construction and renovation resource for coaches, educators, facility planners, administrators and architects

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Using This Planning Guide

From Ideas – To Blueprints – To Reality

This guide is for everyone involved in new construction or renovations for athletic facilities. It's as much for architects and planners as it is for athletic directors, school administrators and coaches. Whether you're building a new athletic facility or renovating an existing one, this guide focuses on needs and performance tips for some of the most overlooked areas of the facility.

We believe well-planned physical spaces can play a big role in creating vital, winning athletic programs. Even the support spaces that are the focus of this guide can play a significant role in a facility that sets a winning tone.

Use this guide as input to a 3-part game plan:

- 1. Evaluation: This guide will provide inputs to evaluate the facility's needs and determine requirements such as size, scope, population, layout etc.
- 2. Communication: This guide will help in the timely and prepared communication among key decision-makers school administration and architects.
- Implementation: In the end, the goal is a facility that will meet current and future needs and reflect a community's values and traditions. This guide helps all interested parties focus on the implementation of some often-overlooked details that will make for a winning facility.

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Wenger Corporation extends special recognition for the valuable guidance in development of this planning guide to:

Don Barnes Director of Equipment & Operations University of Missouri

Our History

Wenger Corporation has more than 80 years of experience and an international reputation for delivering products of outstanding quality backed by industry-leading service. We have a long history of facility consultation, working closely with high schools, colleges, and universities to create storage configurations that improve traffic flow and overall functionality. This expertise is the result of collaborating with you — architects, collegiate and secondary school athletic directors, coaches, equipment managers and trainers.

The Big Picture

Beyond the facilities and extensive equipment inventories needed to run athletic programs, these spaces play host to countless events, week after week, impacting thousands of athletes, staff members, parents and spectators. It's often what happens in the back-of-house areas that makes for success up front, and a facility that's designed to accommodate the diverse needs of multiple users can help increase the efficiency and success of programs and events.

For Athletic Directors And School Administrators:

By focusing on some often-overlooked support spaces in and around the athletic facility, you can be sure that winning programs are not threatened by a lack of attention to organizational details. This guide contains design ideas that can pay big returns in areas like equipment rooms, locker rooms and laundry facilities.

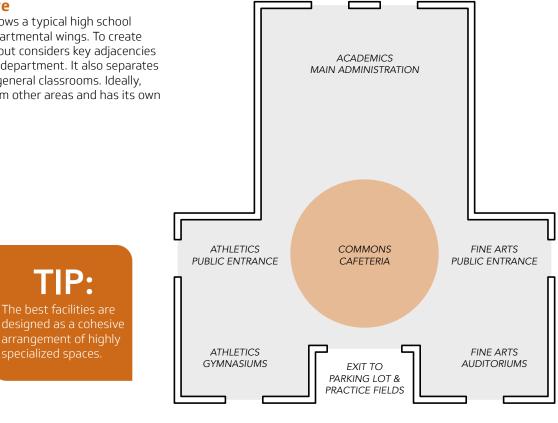
For Architects:

This guide provides an easy way to deepen your understanding of some back-of-house areas in the athletic facility. We provide simple ideas for out-of-the-way spaces that will have a big impact on space, organization, sanitation and school pride. With a few insights and ideas your designs can have an extra measure of understanding and function.

School Overview

A Better Perspective

The following illustration shows a typical high school campus, separated into departmental wings. To create efficiencies, this type of layout considers key adjacencies and traffic flow within each department. It also separates areas of loud activity from general classrooms. Ideally, each wing can be locked from other areas and has its own public entrance.





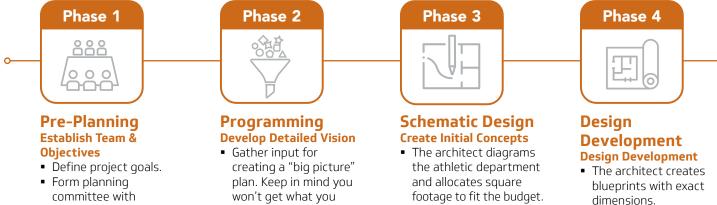
Get Involved Early – Stay Involved Till the Game is Won

For School Staff:

If you have the opportunity to participate in the building of a new athletic facility, take it! It's likely to be a once-in-a-lifetime experience, but, more importantly, you'll need to take an active role if you want the facility to be all it can be — now and for years to come.

Construction Phases

New construction and renovation projects follow the same basic process. This is the framework against which your architects and builders will work and understanding the basic timeline is critical to your timely involvement:



with the planning committee. Agree on the final



 Review and scrutinize all details, even minor elements as bidding and construction are firmly based on this plan.





- administrators, district officials, coaches, educators and end users (include teacher representatives from non-typical environments such as the fine arts, music).
- Research by contacting manufacturers, attending trade shows and visiting other athletic departments.
- Explore funding options, including federal/state grants.

- don't ask for.
- Define the athletic department's goals and anticipate future needs.
- Present ideas from this guide to architect/ consultant.
- Explain needs, space requirements and unique factors.
- Communicate research/ usage requirements to the design team.
- Compile an equipment list including fixtures and furniture.

- Fine tune the diagram
- schematic; future changes are difficult and costly.





Construction Documents Complete Plans for Bidding

- Design team details everything for bidding and construction.
- Finalize general contractor selection and all cost estimates.



Bidding Initiate Selection Process

- Issue invitations to bid (ITBs) to general contractors, as well as electricians, carpenters and other subcontractors.
- Review bids and award contracts.



Construction Oversee Building Activity

- Last opportunity to make sure that the athletic department is being built according to specifications.
- Visit site often and discuss concerns with general contractor, consultants and administration.
- Be part of the solution for problems encountered.



Equipment Purchasing & Installation Ensure Timely Procurement

- Equipment, fixtures and furniture such as such as lockers, shelving and storage cabinets are specified, bid and contracts are awarded to subcontractors.
- Approved subcontractors procure materials, manufacture equipment and install as scheduled.
- Place your order and get a timeline coordinating delivery dates.







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Support spaces are often overlooked or simply not given the attention provided to other, more visible areas. And yet, when a storage area or team locker room doesn't work it will take a toll on the efficiencies of programs and the satisfaction of everyone involved.

This guide considers support spaces such as equipment storage rooms, team locker rooms and laundry rooms and we focus on these four critical factors.

Space

In this guide we focus on support spaces like the laundry, equipment areas and locker rooms. How much support space is needed, and how can it be maximized? No two facilities are alike, but you can save time, protect equipment investments and make the most of any space with designs that maximize the full amount of cubic space in each room while improving access, traffic flow and organization.

CRITICAL FACTOR

CRITICAL

FACTOR

Gear Management

The equipment investment the school will make after the building is designed is significant. And managing all that gear will become a complicated feat of organization. Because of this we go deeper into the world of athletic equipment to explore how facility designs can determine success or failure. Every school is different and equipment requirements change with the season. Traditional wire cages and stationary shelves aren't flexible enough to function adequately. You need a storage solution that allows you to maximize efficiency and improve your control over the process.



Sanitation

Mold, mildew, bacteria, staph problems and the MRSA virus are just a few of the unseen culprits that can keep your athletic program from functioning at its peak. Spaces that promote airflow and cleanliness can help eliminate these serious threats. In this guide we'll demonstrate how the best solutions incorporate open spaces and movable fixtures and furniture that allow easy access to all areas that need cleaning. We'll suggest airflow rates and surfaces that support a sanitary facility.



Tradition & Image-Building

Winning athletic programs with strong traditions produce skills, experiences and memories that stay with athletes throughout their lives. And one of the most powerful ways to create a positive, strong and lasting impression is with a first-rate facility. Every area should be distinctively designed, inspiring and functional. Since it's often a center of activity and team building, we focus on team rooms. And we consider how colleges and professional programs build on their image everywhere you look.

critical Space



How much support space do you need, and how can you maximize what you've got? Support spaces include laundry, equipment staging and issuing, mudrooms and offices. No two facilities are alike, but you can save time, protect your equipment investment and make the most of any space with storage solutions that maximize the full amount of cubic space in each room while improving access, traffic flow, security, organization and airflow.



The Case For Space

Supporting spaces such as team rooms, laundry, storage rooms and offices are often overlooked. They're considered back-of-house areas and yet they're absolutely critical to how the front end of your athletic program functions.

Problems with Typical Equipment Storage Rooms:

A typical storage room is a square box with some lumber-made shelves bolted to the wall. As Wenger Corporation researched these spaces we found, too often, stuff ends up on the floor. This blocks access to the shelving so more stuff gets dumped on the floor. These rooms are quickly rendered inefficient, unsanitary and costly. They rob coaches and students of time spent searching for gear. It wastes space and expensive gear degrades quickly because it's not properly cared for. The related sanitation issues increase liability, which also increases program costs. When it comes to reflecting pride in the program these rooms can be an embarrassment.

Other Support Spaces Matter Too:

Other overlooked spaces can cause frustrations as well. If an equipment repair area isn't planned for, future staff is forced to create a makeshift area. The same is true for equipment staging and issuing areas and mudrooms. How these areas are planned for and where they're located is important. Laundry areas should be near locker rooms, for example, and offices placed around the facility can play a big role in improved oversight and security.

What's The Payoff?

Whether your project involves new construction or renovation, there are big payoffs on more than one level. There are the obvious things like increased efficiencies in terms of space usage, equipment storage, and safety, sanitation and security. Looking at it from a larger perspective, your designs and many of the products you buy or specify for the project will last well beyond the careers of the people who first use them.

Space Considerations

During the programming phase, architects and school planners will need to have discussions around the following topics. The more detail, the better. School staff must be prepared to present a detailed picture of the needs and applications of every space in the athletic facility. Start by answering a basic set of questions for every space:

- How will the space be used by different groups?
- How does it need to function for each group?
- What's the best arrangement?
- How much space is needed?

Support-Area Specifics

- Equipment storage: These areas are dynamic, busy spaces where gear is often issued and repaired as well as stored. Many people from coaches to students typically access them. A better but more costly approach is to secure this area and hire an equipment manager. Most schools can't afford this so determine who will be accessing the space you are designing. Be ready to supply a list of all equipment to be stored and to have a discussion about required square footage. Too often these areas provide less than half of the space that is truly needed.
- Equipment repair: Consider where you will condition and repair equipment. Plan for a space and a workbench with available power outlets. A large sink is ideal for washing and cleaning. Decide if this needs to be a dedicated room or if it can share a corner of another space.
- Laundry: In the past, families may have laundered players' uniforms, but today sanitation concerns require on-site laundry services. Be ready to communicate how much laundry there will be. Present numbers and take pictures during heavy laundry times to illustrate your facility's needs. What associated activities will be performed there, such as hanging, sorting and folding? Plan space for carts and bins. Determine if laundry facilities will be shared with other school departments (e.g. kitchen).
- Mud/drying room/staging area for travel: Depending on the location of the facility, determine how important is it to capture dirt/ moisture before it enters the facility. One consideration to justify this area is to also allocate the space as a staging area for travel and an issue area for gear.
- Athletic trainer's room: Adjacencies to fields and gyms are key. Determine how many people will occupy the room during activities like ankle taping. What activities will it be used for such as first aid, exams, icing, physical therapy etc. It will need service for water, ice machines, sinks and possibly hot tubs. From there determine the desired size.
- Staff offices: Locations should be situated around the facility in areas of high visibility to enforce security and oversight.

Arrangement

Once you've established the individual areas you'll need, think about the optimal arrangement. Consider the key adjacencies, traffic flow, and functions that need their own space. Athletic storage areas are typically located by the gymnasium, and are ideally on a single level near athletic fields. As you move through this process, keep in mind that support spaces should be near the areas they support, and that decentralizing storage space wastes time.

The Eyes Have It for Security

Kids will always be kids, but if an adult is present, they're more likely to behave. Adult eyes and a supervisory presence are always better than locked doors and surveillance cameras. Because of this, offices with windows that are placed within view of multiple critical areas or hallways serve as a security aid, and help reduce the risk of damage, theft, and program liability.

Multi-Use Spaces Help Justify Investment

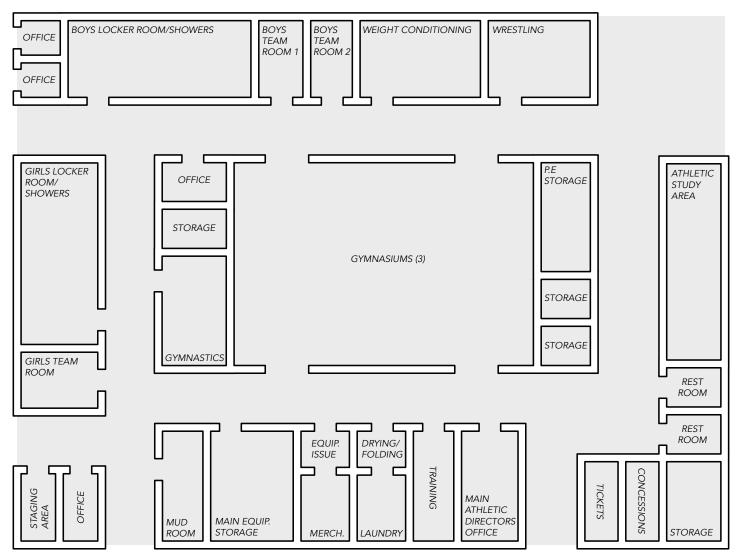
A locker room used only for changing clothes sits empty many hours a day. But what if it could double as meeting space? An equipment room that provides flexible open space could be used for meetings and activities like equipment fittings, which, with a football team of 100 can become quite a production. The more uses planned for a space, the more hours it will be used and the more value it will deliver.

With school budgets tightening, it can be hard to justify added square footage. The truth, however, is that properly planned spaces can serve a multitude of needs, providing more value for a variety of uses throughout the day. Well-designed open areas that transition easily between uses maximize the value of square footage.



The Power Of Placement And Proximity

Athletic departments are in constant motion, with participants, activities and equipment moving through multiple locations inside and out. Thoughtful designs can simplify this movement for a facility, saving time and effort. A good way to start is by taking inventory of your facility's space and support needs. How many athletes, coaches and support staffers will use your facility? How much equipment is involved? Then factor in how people and equipment will move through these spaces on a daily basis. Consider the accommodations you'll need for athletic camps, tournaments, events and other activities.



How your facility is configured will play an especially important role in how your program operates. Here is an example of an integrated athletic department, incorporating layout efficiencies and key adjacencies that improve traffic flow, and time and people management.

Fundamentals Of Space Maximization

Regardless of whether your project involves new construction or renovation, these essential tips will help you get the most from your spaces:

- To minimize the need to move teams and equipment up and down stairs and elevators, athletic facilities are best located on the ground floor.
- The various areas of your facility should be integrated to become a single department, with common adjacencies and efficiencies.
- Outdoor facilities and fields should be directly adjacent to the main athletic department to make it easier to move teams and equipment.
- Wherever possible justify making spaces larger and opening up the usable area by planning for shared multiple uses.

Space Planning For The Future

Because a new facility will be around for decades after it's built, designs need to accommodate the future. The population of the community will grow and change. Ten years from now, it'll be much more expensive to enlarge spaces or move walls.

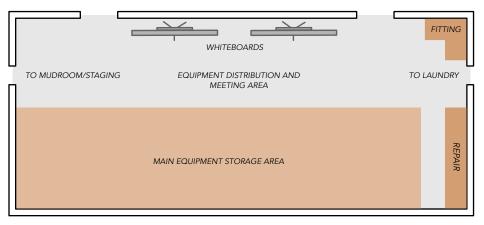
Project your designs into the future as much as can be afforded. Consider a strategic plan for the entire property and identify where additions will be located.

Give Yourself Options

Don't lock yourself into one idea. Keep an open mind and present solutions that offer flexibility as plans, budgets and quotes evolve. When it comes to the support areas, they are undoubtedly the easiest areas to cut or minimize. If this has to happen be ready with the priorities for the facility and alternate plans. Remember by consolidating uses, you can often keep and justify square footage.

Following are some of the support areas you'll want to consider:

- Equipment room
- Laundry room
- Mudroom/staging
- Equipment repair
- Equipment distribution
- Trainer's room
- Team locker rooms
- Offices
- Miscellaneous storage





The illustration above also shows a shared-space design within the equipment room. Providing adequate space for each area and planning positive traffic flow promotes effective equipment management.

Optimal Organization & Usage

End users such as athletic directors and coaches should deconstruct their existing facility. Think about it from the standpoint of overall space and layout. What works, what doesn't? Are there rooms you would like to realign? Are there places you'd like a double door or an exit. What's the one space you don't have now but would most value in a new facility?

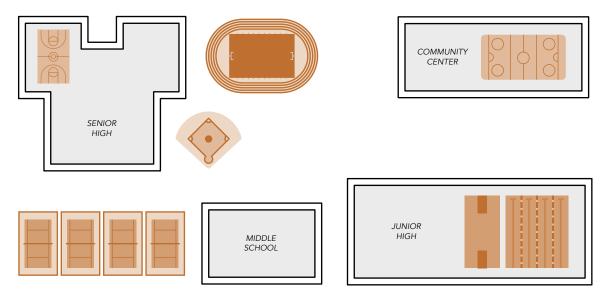
Think about what would be needed to manage spaces for year-round use. (The increased costs associated with doing so can often be offset by generating revenue through camps, tournaments, rentals and other activities.)

There's No Such Thing As Too Much Storage Space

Even the best-laid plans often underestimate the amount or type of space needed for equipment storage and management. The equipment room is often the most under-spaced area in an athletic department, and hallways and laundry and repair areas don't fare much better. You'll be ahead of the game if you plan for double doors in high-traffic areas where equipment will be moving through. And think about the ideal type of storage for your needs. High-density storage is typically far superior to traditional storage, which requires more space and is more difficult to organize.

Shared Facilities Play Well With Others

Another way you can reduce costs is to build multiple signature facilities to be shared within your district, however these economies should be weighed against the inevitable logistical complications and scheduling conflicts.



Shared Facilities

Some districts use shared facilities to make the most of limited space and budgets, and to also improve scheduling efficiencies. In this example, the primary basketball court and baseball and football fields are located at the high school, while the hockey rink is located at the community center. Tennis courts are located at the middle school, and swimming and diving pools are located at the junior high school.

Safe & Secure

The surest way to build a safe facility is to meet or exceed all building and fire codes. But beyond the basics, consider the needs and liabilities that are unique to athletic programs.

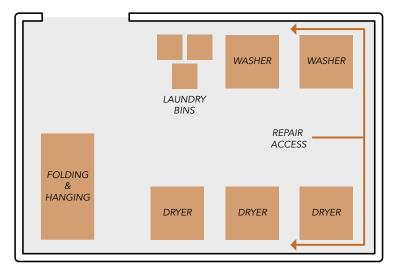
- Fire marshals are especially concerned about the distance between the top of storage units and ceiling sprinkler heads.
- Properly placed doors promote faster and more fluid traffic flow, which greatly enhances safety.
- Plan for several layers of security and monitoring to safeguard your investment:
- Primary and secondary doors, as well as cabinets and storage, should be lockable.
- Monitor who has keys and access to equipment areas.
- Windowed doors and windowed walls greatly increase ability to monitor spaces and movement within the facility.
- Place security cameras in hallways, equipment rooms, practice, conditioning and play areas.
- Add alarm systems and motion detectors for enhanced security.
- Equipment that's organized is more difficult to pilfer because it's easier to notice when items are missing.



The Clean Team

Because of heat and humidity, it's essential to isolate this room into a dedicated space and locate it near the main equipment room. Moisture (humidity) should be ventilated out of the building. Plan extra space for folding and sorting.

Consideration	Recommendation
Flooring	Rubber or other nonslip surface.
Key Adjacencies	Locker and equipment rooms.
Reality Check	Rubber mats are an alternative to a rubber floor.
Washing Machines	Plan for commercial, front-load models. Water temps must get to 160 degrees in order to sanitize the laundry.
Dryers	It is recommended to have twice as many dryers as washers. Dryers should face washers for easy movement from washer to dryer. Dryers should be able to achieve 180 degrees.
Jerseys/Uniform Care	Hang immediately after drying to prevent wrinkling and cracking of letters and numerals. Hang numerically to facilitate distribution.
Safety/Sanitation	Rubber flooring provides good traction and is easy to clean.
Special Requirements	Proper airflow and elimination of moisture are critical. When designing the space, be sure to allow for the easy movement of laundry bins and garment racks.



Offices

The Same, But Different

Athletic offices serve many functions beyond providing a place for administrative work and meetings. They should be placed in proximity to student areas to allow coaches to connect to their teams.

Consider adding a conference room and separate commons area to your layout. If you can add student study/tutorial area as well, you'll nurture a positive atmosphere connecting athletics to academics. This is particularly beneficial in collegiate environments.

Consideration	Recommendation
Flooring	Low-pile carpet.
Key Adjacencies	Locker rooms, practice and playing areas.
Reality Check	Typically, all athletic offices are centrally located within the athletic facility but spreading them around can have distinct benefits.
Requirements	Sound-absorbing panels can help provide a level of quiet that is helpful due to the proximity to noisy spaces such as locker rooms and gyms.

CRITICAL Gear Management



The cost and quantity of athletic equipment in a school today is astounding. When it comes to new construction and renovation the amount of gear and storage space needed is almost always underestimated.

Our research has shown a typical larger high school will easily have \$1 million or more in athletic gear and will require more than 2,500 square feet of storage.

Spaces designed for traditional wire cages and stationary shelves aren't flexible enough to function adequately. Today's programs require a more thoughtful approach to storage. One that maximizes cubic capacity, access, organization, security and sanitation.



Designs That Keep Traffic Flowing

Moving Gear In The Right Direction

The traffic flow within your athletic department is complicated, because it involves the simultaneous movement of people and equipment. Proper traffic flow minimizes congestion and confusion. Think of designs that encourage multiple lanes of traffic, parking areas and off-ramps.

Planning for a large equipment room for example will provide the necessary space for gear to get organized and ready to move. This will keep high-traffic areas like adjacent hallways or the gym more open.

Ensure your designs will accommodate occasional "rush-hour" traffic needs like:

- Staging gear for fitting and issuing to athletes. Coaches and athletic directors know what a busy, congested and confusing effort this will become if space is cramped.
- Shipping and receiving areas keep boxes and materials away from regular traffic areas. Even a small receiving area with
 floor-to-ceiling shelving will elevate the congestion from all of the equipment deliveries especially in the beginning of the season.
- Staging and moving gear for games and travel will run more smoothly with easy access from equipment rooms to parking lots and fields.
- Separate equipment access to the gymnasiums will reduce congestion with the heavy traffic of spectators and athletes.

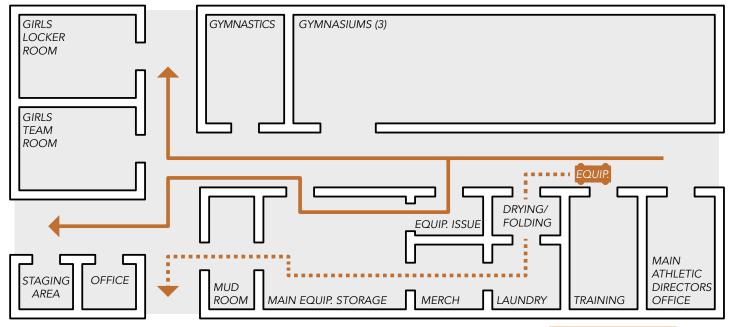
People in the front.

Estimate the number of people moving through the facility during high-traffic times — including spectators, players, coaches, support staff and volunteers. Plan your traffic flow and ensure that directions are simple and obvious. Ensure that hallways and doors are adequate.

Equipment in the back.

Wherever possible you should design for equipment to move through back doors and secondary hallways. Doors, entrances, and exits should accommodate large equipment. Consider where double doors are necessary and insist on doors free from a center post (mullion) or with an easily removable center post.

Example Of High Traffic Flow:



Place the equipment room near the staging area and close to the exit leading to practice fields and parking lots. Double doors, allowing for large equipment, should be placed at both ends of the room to provide easy access and improved traffic flow.

Keep people traffic separate from equipment traffic.

Equipment Room: Everything In Its Place

There are two primary approaches to designing equipment rooms:

- A large general space
- Multiple spaces dedicated to equipment-heavy sports

Our research has shown us that the costs, quantities and organizational needs of athletic equipment are almost always underestimated. When considering storage areas, one large space has many advantages, but if the space is getting crunched remember that sports with extensive equipment (football in particular) will quickly overwhelm a general equipment room. Consider designs that put these equipment-heavy sports in separate areas near their own practice and game facilities:

- Football
- Hockey
- Baseball and Softball

Estimate What You Have

This isn't easy but nothing can put the space needs for storage in clear focus like a good estimate of gear. There are a number of ways to do this.

You can simply count item totals by type. You might end up with a spreadsheet that tallies all hung garments, all stacked garments, all helmets, all round balls etc. Or you could do the same thing specifically for each sport. You could also visit a number of similar-sized facilities and spend some time in their equipment rooms taking pictures and estimating counts.

Don't forget to account for large miscellaneous items like pitching machines, nets, mats, folding chairs etc.

Boys Program	Storage Size
Basketball	100 - 150 sq ft
Track & Field (Non-field house equipment)	75 - 100 sq ft
Baseball	125 - 200 sq ft
Football	400 - 900 sq ft
Golf	55 - 75 sq ft
Cross-Country	55 - 75 sq ft
Soccer	75 - 100 sq ft
Wrestling	75 - 400 sq ft
Tennis	55 - 75 sq ft
Swimming & Diving	55 - 75 sq ft
Ice Hockey	200 - 500 sq ft
TOTAL BOYS	1270 - 2650 sq ft
Girls Program	Storage Size
Basketball	125 - 200 sq ft
Track & Field (Non-field house equipment)	75 - 95 sq ft
Volleyball	125 - 175 sq ft
Softball (fast-pitch)	100 - 200 sq ft
Cross-Country	75 - 95 sq ft
Tennis	75 - 95 sq ft
Soccer	100 - 125 sq ft
Golf	75 - 95 sq ft
Swimming & Diving	100 - 125 sq ft
Spirit Squads	95 sq ft
Ice Hockey	400 - 500 sq ft
TOTAL GIRLS	1345 - 1800 sq ft

high school based on storage space needs for gear and a molecularge high school based on storage space needs for gear and a molecularge area of open floor for access and movement. The sources of these recommendations include our own research, and input from architects and industry experts at the high school and college level.

Note:

With the recommendations above, you can estimate the space requirements of other programs supported by your school.

Consideration	Recommendation
Flooring	Hard surface, concrete.
Key Adjacencies	Locker rooms, repair area, staging area, distribution area, laundry.
Reality Check	The repair, staging, and distribution areas can be set up as dedicated space within the equipment room (rather their own dedicated rooms).
Special Requirements	Lots of storage space, good airflow, good lighting. These spaces must be climate- controlled to minimize heat and humidity.

The Jersey Example

Remember the power of providing architects and planners with concrete examples. Let's say a high school team has 100 football players. Typically a school will carry a 20 percent yield-up which means they'll have 120 jerseys, because it's not always possible to plan what sizes will be needed from year to year. But it's not really just 120 jerseys, you have to add together the home and away jerseys, plus practice jerseys. That gets us to 360 jerseys. If each jersey needs 3/4" of hanging space, that equates to 22.5 lineal feet of storage space — just for football jerseys.

Storage Spaces Are Not Just Big Closets

Plan for high traffic. Give yourself spacious, well-lit work areas with large tables, where equipment can be sorted and worked on without affecting traffic flow. A clean, well-organized space that's always ready to use helps increase efficiency.

Remember this is an optimal location to justify additional square footage by planning for shared uses such as equipment sorting and repair, receiving and distribution and staff meeting areas. High-density storage systems provide many advantages over traditional cages and shelves. If properly designed, high-density storage can optimize the cubic capacity of storage areas, improve access and organization and keep the rest of the space open for other uses. It is important to determine the type of storage solution the space will utilize before the design is set.

There Are Liabilities To Consider

Inspection, repairs and proper fitting are mission-critical to player safety and controlling program liabilities. Make sure your designs accommodate these needs.

For making repairs, you'll need good lighting, with workbenches, tool storage, electrical outlets and ideally, a utility sink. Some schools will use this area for decal work on helmets, sewing/embroidery machines and/or heat-applied vinyl lettering machines. Find out if these activities need to be accommodated.

When it comes to issuing and fitting gear, again the liabilities are significant in terms of player safety and inventory oversight. This area also needs good lighting and access for lots of players and staff. Determine if gear will be sorted and laid out or rolled in on carts and design accordingly.

Think Beyond Square Feet - Cubic Capacity Is The Key

These guidelines are based on accommodating equipment and providing for adequate space and movement around it. Instead of thinking about space in terms of square footage (two dimensions), let's think about it in cubic (three-dimensional) terms. The more cubic storage can be maximized, the less dedicated square footage will be required for any one application.

Mobile high-density storage systems are designed to maximize cubic storage efficiencies while improving access to gear, organization and sanitation.

If you can build up or have inherently high ceilings determine how you can use the overhead space. A mezzanine level built into a tall storage area can be made very effective with a cargo lift to move equipment.

Limiting Liability

If an athlete is injured because of equipment failure, litigation is a likely outcome. NOCSAE, the National Operating Committee on Standards for Athletic Equipment, has specific rules and performance standards relating mostly to contact sports like football, hockey, baseball and lacrosse. Specifically, helmets and other protective equipment used must be NOCSAE-compliant.

If a student suffers a head injury resulting in a lawsuit, the coach must be able to demonstrate due diligence. And that means the school must be able to demonstrate that equipment is being inspected, replaced or reconditioned if necessary. Furthermore, the equipment should be organized sufficiently so there isn't confusion about what equipment is in (and out of) circulation, and where the equipment is located. Schools should keep records of proper fittings and distribution to the athletes. A simple card signed by both the fitter and the athlete is a good place to start.

A well-designed equipment room that is easier to organize, and where gear is properly stored, makes it much easier to demonstrate due diligence. Not unlike the inventory challenges of any business, organization is the first step to safety and accurate records.

Temporary Event-Staging

For Travel:

A dedicated temporary event-staging area can give you permanent flexibility that will make travel much easier. You'll have a single spot to collect and inventory everything before it goes out — duffels and uniforms, equipment supplies and repair materials, first aid kits, coolers, training supplies, and video and telecommunications equipment.

For Equipment Issue:

Several sports involve fitting sessions that require space and time. But you don't need to have a separate issue area if you utilize the space in your equipment room efficiently. The space needs to be out of the flow of traffic and easily monitored so that your equipment is secure during the process. A properly planned space allows for fittings to be done in a focused setting away from the hustle and bustle. Your fittings will go faster, more smoothly, and ultimately provide better results.



Minimize the gear chase through better

There is a direct correlation between facility designs and the costs associated with equipment replacement and repair. That's because good facility designs will result in efficiencies in time, organization and security:

- Computerized controls are more efficient than manual controls for keeping track of equipment and managing inventory distribution. If this is a possibility for your organization make sure your plans account for electrical outlets and computer connectivity in your equipment areas.
- Inventory and budgeting go hand-in-hand. Programs should take inventory before they order, so that they are able to accurately identify what is needed and how much money to allocate. Unfortunately poor organization and cramped spaces are typically the biggest hurdles to taking accurate inventory. This is just one more justification for designs that don't skimp on storage.
- Just like the athletes themselves, athletic gear is frequently on the move. Easy access to the gear and thoughtful designs that accommodate movement between points of use are essential to smooth operations.

demands that you know what you have and where it is.



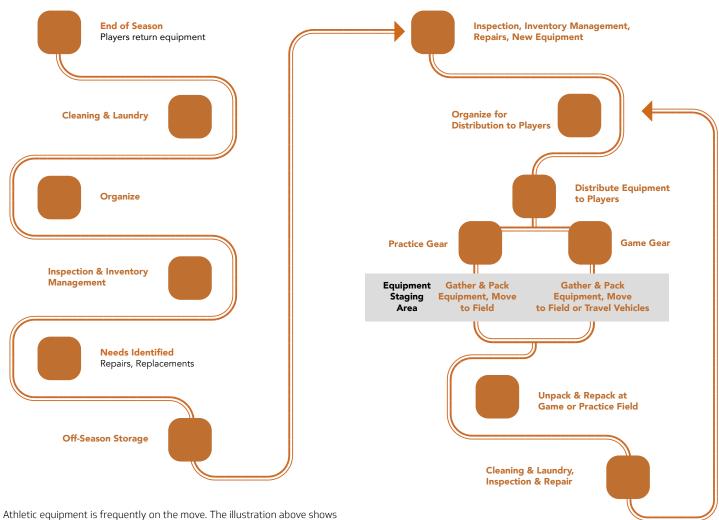
Gear Upkeep And Safety

Equipment inventory represents a sizable portion of your total program investment, so be sure to keep it secure, organized, clean and within the national standards for proper equipment storage. Always check the manufacturer's recommendations and limit the liability issues surrounding improperly stored, repaired or maintained equipment (which can be unnecessarily costly) by keeping it safe. Here's how you can be a "trainer" for your gear's well-being:

- Keep good records, always check manufacturers' recommendations, and adopt national standards for proper equipment tracking, care and storage.
- Visit www.nocsae.org to download the guidelines established by the NOCSAE (National Operating Committee on Standards for Athletic Equipment).



Equipment Is Always On The Move



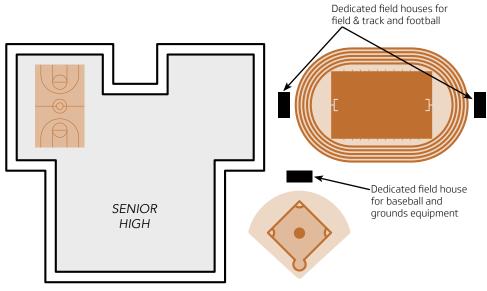
Athletic equipment is frequently on the move. The illustration above show how a typical piece of equipment moves through the course of a season.



Don't Let Logistics Get In The Way Of Athletics

Athletes play with passion, and you want to keep their attention focused on practice and game performance. Proper equipmenthandling during practice powerfully reinforces the philosophies of discipline, organization and excellence. The coaches and athletic staff will be wearing many hats to keep a smooth-running operation:

- Don't underestimate the logistics of travel and movement to practices, games and workout facilities: store as much equipment as possible on-site, and think about what you can do to improve accessibility and transportation.
- Make sure to design adequate field facilities for storage of larger outdoor gear and field maintenance equipment. Typically there are a lot of large, bulky items that need to be kept closer to the fields and are too unruly to store inside. Items such as tackle dummies, pitching machines, track and field gear. In addition there needs to be a place for items like mowers and striping machines.



Creating a system for managing equipment flow to and from games and practices helps minimize down-time. It will also help reduce distractions and ensure that you have everything you need – right where you need it.

Logistic Tips From Colleges And Pros That Any High School Can Adopt

Game time is fun time and shouldn't be diminished by equipment concerns.

You can have smoother-running games at home and away by following these guidelines:

- Make a list of responsibilities for each staff member, make a checklist of the items you'll need, and develop an event timeline.
- Make sure coaches and players fully understand their responsibilities.
- Define how you want game gear organized, set up a staging area and use consistent methods, and pack backups for key gear. This consistency will quickly reduce forgotten and misplaced items.
- Move gear in duffel bags, carts and other "packets" rather than loose pieces.

When you're traveling, all the above guidelines apply, plus a few others:

- Make a detailed inventory list down to snaps and rolls of tape.
- Take your checklists to a more detailed level to help prevent equipment loss or forgotten items.
- Tape individual player's checklists on their lockers, and give coaches and support staff their own detailed checklists. Everyone must know their assignments.
- Pack more efficiently and set up a dedicated staging area to reduce the risk of having to replace misplaced or forgotten gear.
- Pack containers consistently and mark them clearly.
- Take special care with training and telecommunications equipment, consider assigning responsibility for first aid supplies to a specific individual, and check these lists twice.
- To help you hit the ground running, communicate with staff at the away venue in advance and get a layout of the locker rooms, unloading and any special staging areas, if possible.



CRITICAL Sanitation



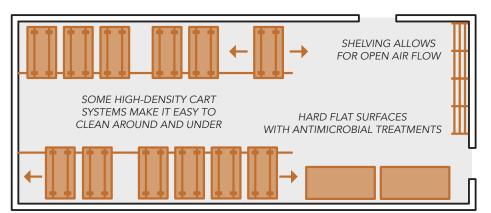
Mold, mildew, bacteria, staph problems and the MRSA virus are just a few of the unseen culprits that can keep an athletic program from functioning at its peak. Spaces that promote airflow and cleanliness can help eliminate these costly burdens. The best solutions incorporate open spaces and movable fixtures and furniture that allow easy access to all areas that need cleaning.

If Health And Safety Are Core Values, So Must Be Sanitation

You'll be far ahead of the game if sanitation is at the forefront of your mind when designing spaces for your programs. Like a flood where one small leak can lead to catastrophe, bacteria, mold and mildew can quickly spread to dangerous proportions if given a single foothold. Unattended laundry, piles of wet towels, unsanitized equipment and benches are all perfect petri dishes for growing the invisible yet invasive problems that can affect player and staff health and safety.

For A Facility To Be Clean, It Must Be Built To Be Cleanable

The best facilities employ an approach that looks at more than just surfaces. Using hard, non-porous surfaces and even antimicrobial-treated laminates are best wherever possible, but there is more to think about. Airflow is another key component to keeping your facility in top shape. For optimal performance, damp, humid air from showers and locker rooms must be directed away with a fresh-air exchange system. Lockers and shelving that promote airflow and drying will help curb the growth of mold or mildew. Mobile storage and fixtures that can be cleaned under and around are another important consideration when designing your space. Creating a space that is cleanable, has the right airflow, and is built using hard surfaces will greatly reduce your chances of having costly sanitation issues or virus outbreaks.



Simple rules: Keep everything off the floor. Eliminate noncleanable nooks, crannies and corners. Ensure good, dry airflow throughout the facility.

Healthy Facility, Healthy Athletes, Healthy Program

To create a healthy environment, your space must be conducive to cleaning.

When it comes to sanitation, keep these important factors in mind:

- To help fight mold, mildew and bacteria inbetween cleanings, consider choosing surfaces, fixtures, carpets, paints and laminates that incorporate antimicrobial features such as nano-silver technology.
- Select surfaces that are easy to clean and can stand up to heavy-duty cleaners like bleach. Poly-laminated surfaces are particularly ideal in this type of "clean room" application.
- Choose carpets that are available as individual squares, with low pile and no padding.
- Regularly sweep, vacuum and clean all floors hard surfaces as well as carpet with an anti-bacterial cleaner.
- Opt for fixtures and equipment that are movable vs. built-in solutions that inhibit the ability to clean in, under and around.

TIP

When it comes to planning and building a facility, much of the sanitation fight can be won or lost by the decisions you make at the beginning.

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NOTE:

MRSA, mold, mildew, bacteria — they can ruin a player's season, shut down a facility, and – on occasion – even result in death.

Management Of Airflow

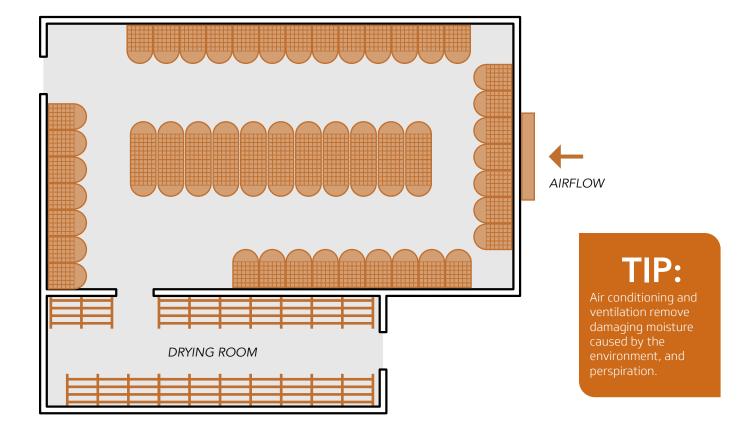
The proper flow and exchange of air is essential to maintaining a comfortable, germ-free environment. By keeping your equipment cool and dry, you'll be able to minimize the growth of mold, mildew, staph infections, viruses and pathogens.

While airflow solutions are as individual as the facility, there are some general guidelines you can follow:

- Maintain a consistent temperature and humidity level.
- Use air conditioning to circulate cool, dry air.
- A top priority for a new or renovated locker room must be a dedicated fresh air exchange system.
- Choose lockers and fixtures that are designed to optimize air circulation.
- Consider including a drying or "hot" room to speed the drying process.
- Utilize raised lockers.
- Open, grid-style lockers promote airflow.
- Seats with integrated fans provide quicker drying of shoes, gloves, etc.

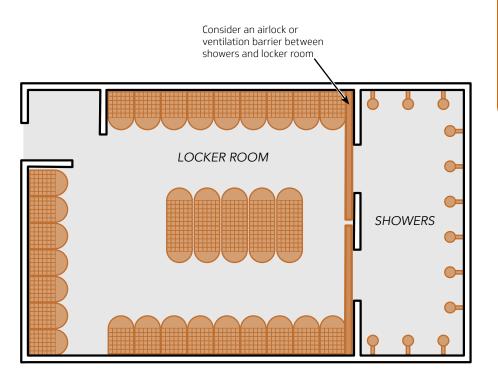
NOTE:

The air from the locker room should not be re-circulated. The air in the locker room should be replaced fully with outside air and HVAC systems should accommodate cycles that exchange the air within 45 minutes to an hour. Dedicating an HVAC system to this space is an expensive design proposition, but should be prioritized as the first and best step to a healthy space.



Attack Moisture And Heat

Since showers are located adjacent to locker rooms 90 percent of the time, it's critical to consider and plan for proper ventilation — both active HVAC systems as well as passive airflow. Air-exchange systems that are independent from the rest of the school provide for the "extreme measures" this situation requires, such as seasonal (temperature and humidity) adjustments, among other things.



NOTE:

A locker where a player sets out sweaty shoes, pads and towels to dry is located 30 feet from twelve shower heads. The humidity in the ambient air is likely to be too high to accomplish anything but the effective growth of microorganisms. The next day, the equipment will be smelly, damp, and possibly dangerous.

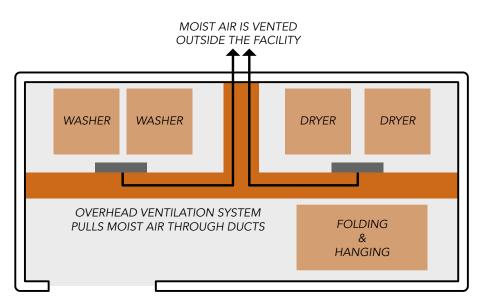




Washing/Drying Facilities

Your equipment will perform better and last longer if it's kept cool and dry. Your laundry/repair area may require special ventilation to remove moisture, but you'll be glad you made the extra effort. When designing your facility's laundry room, follow these tips:

- Proper laundry room ventilation means ventilating the entire facility, not just the dryers.
- Allow equipment to dry outside in the hot sun whenever possible. Otherwise, use large commercial blowers to thoroughly dry equipment before storing.



NOTE:

How equipment is

has a significant

stored and ventilated

Staph infections grow and spread quickly in uncontrolled environments. More often than not, more than one athlete is infected, and, in the most severe cases, an entire season can be affected.

To remove moisture, the laundry/repair area requires special ventilation to the outside.

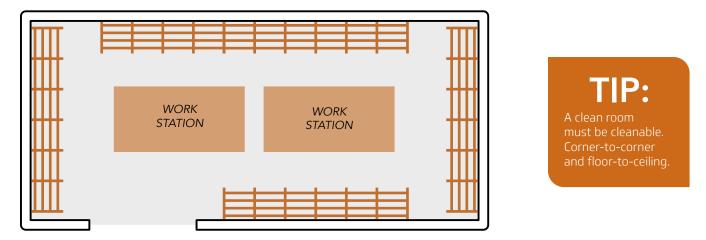
The laundry room requires venting to the outside, helping to reduce moisture in the facility. Mud and drying areas are often considered just "nice to haves" — but those schools fortunate enough to have them value them highly. They are places where dirty gear can be scrubbed or hosed down, cleaned and allowed to dry before it enters the main area of the building.

Athletic trainers tell us "there's a lot of 'snake oil' being sold because of sanitation fears." We read headlines or see TV news stories about a student-athlete losing his or her season to a staph infection, or worse yet, their life to a MRSA infection.

- Fear is a powerful motivator. We must eliminate the reasons for these fears, not just mask the fear (or in this case the smell) with deodorizing sprays and spritzers that really don't fix anything.
- It starts with a clean, cleanable facility just like at your home. If you can't get in, around and under things, they can't get clean.

Plan For A Drying Room

Even with all best practices in place, it's difficult to dry sweaty shoes and pads in a locker room. But the faster they dry, the less opportunity microorganisms have to grow. A high-heat drying room with high airflow is the ideal location for players to park their most sweaty gear between practices or games.

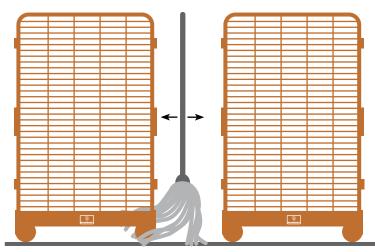


Utilize Commercial Washers And Dryers

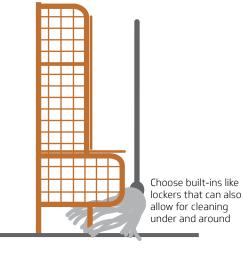
Towels and unwashed clothing are one of the most frequent culprits in spreading dangerous bacteria. Commercial systems are necessary for handling the bulk and frequent use — and will let you set and keep a laundry schedule for school-owned soft goods.

Mobile Storage Is Best

Think again of areas where sanitation is mission critical. Hospitals, kitchens... and your athletic facilities. Most of the furniture used in these spaces is movable and often on wheels. Plan for lockers, furniture, larger equipment and storage that allow you to clean in, around and under, as easily as possible.



Mobile storage carts that move can be cleaned under and around.





Cleaning Schedules

Sanitation liabilities, in particular, have made headlines in recent years. These stories aren't the kind of visibility that school athletic departments — or any organization — wants to have. But the risks are real.

If It Smells Good, It Must Be Clean, Right?

Wrong! Using powerful, appealingly scented products or machines to mask bad odors is a bad idea. Just because a room smells good does not mean it's clean! The absence of odor is only good if it's achieved through sanitary cleaning. While your nose can alert you to danger (noxious odors mean microorganisms are thriving), growing bacteria cultures can't be seen with the naked eye.

Kill The Culprit

While you can't enforce how athletes or staff will use equipment or observe the processes you put in place to ensure health and safety, a properly designed facility can help head off many of these problems at the pass. Remember:

- Utilize cool, dry, high-volume airflow. Utilize oversized high-capacity systems, with AC to keep rooms cool and dry.
- Moisture and heat are more destructive to equipment than game wear and tear.
- Helmets and pads should be sanitized on a regularly scheduled basis.
- Washers should be set to a hit a high temperature of 160 degrees, which is 100 percent effective at killing any microorganisms.

TIP:

Properly controlled environments help prevent the spread of mold, mildew and bacteria.



Cleaning Schedules – Tips From The Colleges And Pros

Think about everything that comes into contact with the human body (and bodily fluids) that can't be laundered. These items need to be cleaned on a regular basis as much as do clothes, towels and other items. Here's a sanitation process that will make it as easy as 1-2-3:

- 1) Make a list.
- 2) Assign responsibility for the items on that list to players or staff.
- 3) Conduct inspections.

Following is a partial list of items and areas that should be sanitized on a weekly basis during the playing season. These items require more than routine custodial maintenance and need to be sanitized with bacterial disinfectants:

Player Equipment

Facility AreasWeight Room

Training Room

- Helmets
- Shoulder Pads
- Gloves
- Shoes
- Breezers
- Mouth Guards
- Equipment RoomWrestling Mats
- Locker Room
- Gymnastic

Player Hygiene

Your best efforts to keep school equipment and facilities clean can go down the drain quickly if players don't shower, cover open abrasions and cuts, launder their own clothes and keep their personal spaces clean. Here are a few simple things you can do to help:

- Talk about it. Openly discuss the importance of and your expectations for cleanliness and hygiene.
- Lead by example. If you're committed to it, you have a much better chance of making an impression on your players.
- Instruct. Show and tell them how to do it.
- Inspect. Follow-up is everything.

Keep It Simple

Your program's commitment to sanitation should be easy to implement, visible, and a point of frequent discussion. Even the simplest expectations are frequently ignored if they're not also easy to execute. Here's how:

- Collect wrappers, empty drink bottles, food and other refuse in large garbage cans placed in strategic locations around the facility. Emptied daily, this keeps garbage out of lockers and in its proper place.
- Collect towels, jerseys, pants and anything else that can be laundered in mobile laundry hampers or pass-through laundry lockers.

TIP:

Clean-Up: There Is No Magic Solution

"Bacterial Disinfectant" is a catch-all term that has come to be used to describe a wide range of cleaning products, from boiling water, bleach, alcohol and vinegar to specially formulated chemical solutions. Other, mechanized processes even utilize black light and ozone. Some claims far outweigh actual results.

In general, the best solutions are those that you are most comfortable with and are easiest to use — with one exception: always heed manufacturers' recommendations for cleaning and care instructions.

TIP:

A simple sanitary program helps you put desired processes into play.

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CRITICAL Tradition & FACTOR Tradition & Image Building



Winning athletic programs with strong traditions produce skills, experiences and memories that stay with athletes throughout their lives. And one of the most powerful ways to create a positive, strong and lasting impression is with a first-rate facility. Since it's often a center of activity and team-building, a distinctively designed, inspiring and functional team room and locker area can enhance your image as well as your players' overall experience.

Home Of The Team Spirit

Team rooms are spaces that athletes have earned admission into. They're rallying points for school and team pride and, with the right design, aesthetics and functionality, they can enhance that feeling. Team rooms deserve their own space and should be separate from institutional physical education locker rooms, as they do far more than provide a place to change. They build community within the athletic department.

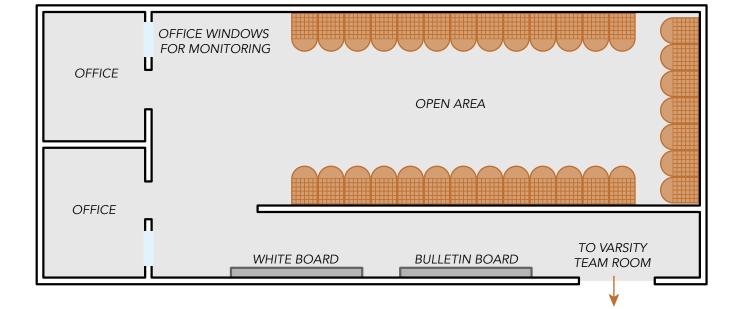
Create A Sense Of Camaraderie

School sports draw people together. School teams are often held in high esteem by people in the community at large, and school pride can be contagious, motivating boosters, PTAs and other supporters to take a more active role in funding a facility. A well-designed, organized and efficient facility shows the community that you appreciate their support. And your team room is where players develop the bonds and key relationships that translate into chemistry on the field.

Consideration	Recommendation	
Flooring	Low-pile carpet, linoleum, tile, concrete.	
Key Adjacencies	Equipment room, training room, shower, offices.	
Reality Check	Separating phy-ed lockers from athletic team lockers is preferred.	



as common areas



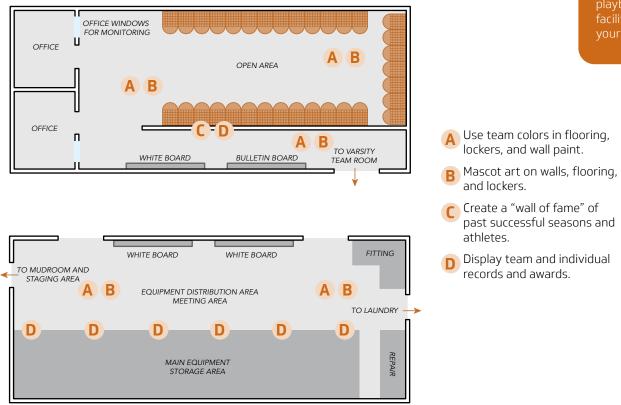
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Fly Your Colors

Painting your locker, equipment and other departmental rooms is a fast, affordable way to improve your program's image. Bold, colorful schemes spread energy and enthusiasm, and your logos provide powerful, inspirational imagery. Follow the example of leading college and professional programs that prominently display their team colors, logos, trophies, and memorabilia throughout their facilities.

TIP: Take a page out of

the college and pro playbook: Use your facility to promote your program



Tell Your Story

Alumni are among your top funding sources, so build your tradition on the heels of history. Proudly display the trophies, awards, school records and photos of teams and players who have gone before. This will inspire today's athletes — and recruits.

Your Personal Best

Every facet of education — whether academics, arts or athletics — supports a single message: "What we do here is important. You deserve the best tools to help you reach your full potential. And we expect your best performance in return." Research shows that involvement in after-school activities is key to how well children develop and mature. It also shows that you've got a heart for the kids. Ninety-nine percent of high school coaches do it for the love of the game and the kids. To help them achieve their personal best. This is part of your legacy, too. And we can help you build it.

Support Spaces Planning Worksheet

Area	Shared Use	Estimate Square Footage	Desired Adjacencies
Equipment Room	Equipment Distribution Repair Offices Staging Area Meeting Area Drying Area Other		Laundry Gym Locker Rooms Outside Access Mudroom Elevators Loading Dock Trainer's Room Other
Boys Main Locker Room	Seasonal Sport Teams/Intramural Phy-Ed Meeting Area Other		Showers Laundry Gym Offices Trainer's Room Other
Girls Main Locker Room	Seasonal Sport Teams/Intramural Phy-Ed Meeting Area Other		Showers Laundry Gym Offices Trainer's Room Other
Boys Team Room	Seasonal Varsity Sports Lockers Team Meeting Space Film Review Coaches' Offices Other		Courts/Gyms Outdoor/Fields Laundry Showers Trainer's Room Other

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Support Spaces Planning Worksheet (Continued)

Area	Shared Use	Estimate Square Footage	Desired Adjacencies
Girls Team Room	Seasonal Varsity Sports Lockers Team Meeting Space Film Review Coaches' Offices Other		Courts/Gyms Outdoor/Fields Laundry Showers Trainer's Room Other
Laundry Room	Equipment Distribution Repair Staging Area Drying Area Folding/Hanging Sewing		Equipment Room Gym Locker Rooms Outside Access Mudroom Elevators Loading Dock Trainer's Room Other
Athletic Trainer's Room	Injury Exam Hot Tubs Ice / Water Distribution Tape Stations Bikes / Treadmills Other		Outside Fields Gym Offices Weight Room Other

Equipment Storage Worksheet

Sport	ltem	Quantity	Estimated Future Quantity	Space Requirements
Football	Helmets			
	Shoulder pads			
	Balls			
	Pads, general			
	Uniforms			
	Incidentals			
Soccer	Nets	1		1
	Uniforms			
	Incidentals			
	Balls			1
Volleyball	Nets			
volleyball	Uniforms			1
	Incidentals			
	Balls			
Hockey	Helmets			
	Pucks			
	Sticks			
	Goalie's gear			
	Uniforms			
	Incidentals			
Basketball	Balls			
	Uniforms			
	Incidentals			
	Gear			
Spirit Squad	Uniforms			
Spirit Squau	Accessories			
	Incidentals			
Wrestling	Singlets			
	Incidentals			
Baseball	Helmets			
	Bats			
	Balls			
	Catcher's gear			
	Uniforms			
	Incidentals			
Lacrosse	Helmets			
	Sticks			
	Uniforms			
	Nets			
	Incidentals			1
Softball	Helmets			
Jorcoan	Bats			1
	Balls			1
	Catcher's gear			
	Uniforms			
	Incidentals			1
Golf	Bags			
	Balls			
	Shag balls/bags			
	Incidentals			

Equipment Storage Worksheet (Continued)

Sport	ltem	Quantity	Estimated Future Quantity	Space Requirements
Track & Field	Javelins			
	Hurdles			
	Pole vaulting poles			
	Batons			
	Uniforms			
	Incidentals			
	Bags			
	Shot puts, discuses			
Tennis	Nets			
	Rackets			
	Uniforms			
	Incidentals			
Cross Country	Uniforms			
	Course markers			
	Incidentals			
Field Hockey	Helmets			
	Sticks			
	Nets			
	Incidentals			

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Resources

- NOCSAE National Operating Committee on Standards for Athletic Equipment (www.nocsae.org)
- AEMA Athletic Equipment Managers' Association (www.aema1.com)
- NATA National Athletic Trainers' Association (www. nata.org)
- NFHS National Federation of State High School Associations (www.nfhs.org)
- The AEMA Certification Manual was an important reference source for this guide and is the leading source of information for anyone interested in establishing the best practices for equipment management.









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