



# Field design challenges mirror use demands



## A common problem

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OVER THE PAST 20 YEARS of increasingly complex design challenges and the growing, high-use demands on athletic fields, sports field design and construction has emerged as a uniquely specialized craft, requiring not only years of experience to be able to meet and master these challenges but also a substantial investment in the development of the highly specialized work force and custom-designed equipment it takes to perform this work properly, as envisioned and designed. And to do it on time and on the money.

In short, today's athletic field to which in these severe economic times must be designed and built to stand both the test of time and high usage, is simply no place for on the job training of untested designers and contractors. Unfortunately, that is precise-

ly what is happening time and time again as owners turn to landscaping, grading and civil contractors with little or no experience in the field for their sports field construction needs, often tacking an athletic field project onto a larger campus construction project.

“After all,” they reason, “anyone can grade a field and grow grass. Right?” Repeatedly, the answer to that question has been “no.” All too often it is a time-wasting, budget-busting cry of “Oh, no!” And a private institution certainly wants to use “friends” of the church or school to keep costs down. Many times however the end product is a field that has long-term problems at a price that exceeds the cost if doing it right the first time.

The bottom line: when it comes to sports field design and construction, the “anyone can do it” believers are turning to contractors who not only lack expertise and experience in the field, but who also don’t even know what they don’t know. This article is my advice to help you in your quest to know what you have to know—by asking the right questions and getting the answers—when planning your athletic field project. Here are some considerations for making your field project a success.

**Why a sports field contractor?**

As with any “new” trade, sports field contractors (SFC) have borrowed equipment, techniques, and technical information from

other industries, primarily the grading industry. It is tempting to pull in a local contractor that builds roads or buildings, thinking that the principles of grading and drainage apply equally to sports fields. One major difference is that in road and building construction you are controlling subsurface or underground water at a foundation or under a highway. In athletic fields you are controlling water at the surface, for footing, safety, and playability.

A common problem we see is a drainage system installed by a grading contractor that has beautiful pipe and stone layout, but is covered with 6 inches of topsoil and the surface water never reaches the pipe. This makes sense with road construction, but not with athletic fields. Even a 1 inch clay sod layer can fail a drainage system.

Grading techniques are also an important factor. With the introduction of automatic laser controlled grading systems, tolerances are lower and expectations are greater. Even though a grading contractor may use laser guided equipment, they most likely don’t have the custom built equipment of the weight and size to get within the tolerances expected for athletic fields (standard is 1/4 in. over 50 ft.).

Equally as important is that the field be designed with the proper grade and layout, so that surface water moves consistently off the field or into the drainage system by the shortest means possible.

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The most successful sports field projects consistently involve a qualified field designer and field contractor. This holds true for synthetic turf as well as natural turf projects.

### The all-important “p” word

Planning can make or break any project and sports field construction and renovations are no exception. Start by identifying field design firms and sport field contractors (some contractors do both). Pre-qualify these firms based on experience and references. Anyone can claim to be proficient, but the clients usually speak best to capabilities. Field builders and designers can be found through organizations such as the Sports Turf Managers Association the American Field Builders Association. Discuss your project with prospective designers and builders to get ideas concerning your project.

The next step in effective planning is a site evaluation. At a minimum this should include evaluation of grading and land use issues, site drainage, soil conditions, neighbors, lighting, pedestrian flow and parking, available space, traffic flow, truck and maintenance equipment access, water sources, and current and potential use needs.

Continue to consult with a sports field contractor and designer as you go through the planning process, asking for informal quotes for “ballpark” pricing. Developing a budget and understanding maintenance capabilities should be part of the planning process as well. Meeting with the end users (coaches and turf managers) will help to understand what the expectations will be for field performance and level of use.

### Field design

The design phase is when interviewing of design or design-build firms should begin. Many firms may be well qualified to design an entire site or facility, but lack the knowledge or expertise to design and write specifications for sports fields. This can be an opportunity to use a “friend” of the school or church to help with erosion control and grading design, as long as you have a qualified sports field contractor advising the design.

Oftentimes the decision to hire a design firm is driven by the procurement process. We usually see three types: design-build, design-bid-build, or Request for Proposals (RFP).

In the design-build scenario, it is wise to interview sports field contractors and sports field design firms. Again, some sports field builders have in-house CAD capabilities, and can turn-key the design-build project.

In the design-bid-build scenario, very detailed specifications and field contractor qualifications should be included in the project bid documents. You may want to consider pre-qualification of field contractors: experience & references, percent of work self-performed, financial stability, bonding capability, insurance program, Certified Sports Field Manager (CSFM) and agronomist on staff, owned equipment list, length of time in business, etc.

The pre-qualification process becomes more valuable in a RFP scenario. The benefit of an RFP process is the wealth of knowledge gained from the interview/presentation process. The challenge is trying to compare proposals as you would be able to in an “apples to apples” bid situation.

How and when you sign a contract with the field builder varies, but generally the sooner the better. Make sure you include a detailed schedule, warranties, guarantees, project management meetings, and any specific requirements concerning work hours and facility access in the contract documents.

One of the biggest mistakes we see in the design process is the drainage system, if included at all. As referenced above, this is not a place to use a utility or grading contractor. There are many systems advertised and in the ground that do not work, or do not work for long. Always seek references and visit sites to inspect the performance of the drainage system you are considering. Again, this applies to both natural and synthetic turf.

### Permitting

Once design is complete, the permitting process begins. The length of time to make this happen can be surprising. This process is often started in the design stage, and this is an area in which hav-

ing a good local connection definitely helps expedite the process. Requirements vary depending on state and local laws, but you may have from three to ten departments to seek approval. Depending on the scope of the project, this process could take from 1 to 4 months and may involve reevaluation of parking, access, noise, dust, stormwater, and other departments you never knew existed. So allow for some time. Cost outside of the field such as water sources should also be considered.

The best case scenario is to have the field contractor already on board to help you work through the process. Submittals detailing all materials used in the project and any testing before construction can be provided by the contractor now so that there are no questions or discrepancies once construction begins.

### Construction

If all of the above has gone well, then you should be working with a good design, capable sports field contractor, quality materials, and ready to break ground. The construction should be the easy part, other than dealing with weather. As with any project, worry with things you can control by making the best preparations prior to construction, then deal with things you can not control, such as weather, as it comes.

Have an assigned owner's representative between the owner and contractor. It is often the facility director or board member, or maybe a third party hired manager. Many times in private schools and churches, the money comes from donations or gifts, and the "gifters" want a say in the day to day construction process and can misdirect the contractor, leading to a big mess. If the contractor communicates and takes direction from one person, the potential for confusion can be greatly reduced.

If at any time during the construction process you don't feel right about something, certainly ask the question. One of the benefits of a design firm is they can assist with quality control, inspecting installation and materials in relation to design and specifications. At the conclusion of the project, make sure the contractor is required to provide as-built drawings, especially helpful when irrigation systems are installed. ■

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