

Constructive ideas

Contractor tells how to plan

Field construction is no small task. The planning, equipment and construction techniques are important factors. SPORTSTURF magazine recently spoke with Chad Price, agronomist, from Carolina Green Corp., a general contractor specializing in sports field construction, renovation, maintenance, and design. Carolina Green constructs all types of natural grass fields, including sand based, modified soil and native soil systems. The majority of the company's work is at the college/university/professional level, but the company also works with little league and athletic associations.

ST: How far in advance of actual construction should planning for a new field begin?

PRICE: Most projects need 6 months to 2 years planning, depending on scope and number of people involved in approval of the project. Approval of issues such as erosion control, zoning, wetland protection and utilities may take months to pass and should be addressed early in the design development stage.

ST: What occurs during the planning stages, and what type of preparation is done before construction begins?

PRICE: The planning process may vary depending on the type of construction process used for the project. The three most common construction projects I see are design/bid/build, design/build, or request for proposal (RFP). In design/bid/build, the owner and architect come to terms on the scope of the project, bid the project, and award the job to the lowest responsible bidder. In design/build, the owner selects a qualified contractor up front and negotiates the terms before construction, and the contractor acts as the designer. In an RFP, the owner provides an outline of the scope of the project to qualified contractors, who then respond with their individual design proposal and cost. The owner then selects the contractor with whom they are most comfortable. There are advantages and disadvantages to each approach, and the method used usually depends on legal issues with public and private funding.

With any process, a good planning team is critical to a successful project. The team has two sides, the owner and the designer. The owner group typically consists of the person with the money, the turf manager and a coach/team rep. The design group could be the architect, the field contractor or both.

The planning process would start by the owner group communicating

exactly what they expect in terms of field performance and level of use as well as budget for the project. We need to know how many events—games and practice—will be played per week, will they play rain or shine or allow for cancellations, are there periods of down time to perform maintenance, what equipment and personnel will be available for maintenance, and what is the construction and maintenance budget.

Once this is established, the field contractor, turf manager, and architect can work together to develop design specifications for a field capable of that level of performance. Considerations include initial construction costs as well as long-term maintenance requirements. We run physical soil analysis tests on the existing topsoil to determine compaction potential and amendment needs. We then identify suppliers of materials that meet the specifications and, if possible, get the material contracted for delivery. This is especially important with rootzone mix and sod in fields with internal drainage. The soil in which the sod is grown and the rootzone mix need to be compatible for drainage purposes, and that can be a challenge.

The architect can then package the field design with the other issues in the project such as seating, lighting, and access. The team should bounce ideas off each other on issues such as field rotation opportunities, warm-up and practice areas, and spectator access and protection.



ST: What type of information/input do you look for from the turf manager, and/or the other parties you are dealing with, during the planning stages?

PRICE: Information and input from turf managers is critical in the planning process. Problems encountered in many projects can be traced back to failure to include and elicit input of the turf specialist in the design stage. The turf manager needs to inform the design team of their current capabilities, and what additional personnel and equipment may be needed to maintain the new facility (these costs should be added to the project).

We can often make slight changes in design to help an understaffed maintenance crew. These options can include grass base paths, automatic irrigation on skinned areas, or building the field longer to allow periodic shifting out of worn goal mouth areas. Even seemingly small details, such as gate placement to reduce turf wear, can make a big difference in daily maintenance.

We also want input from coaches and teams to help us better understand the level of traffic the fields will need to endure. This also gives us an opportunity to inform them on ways to limit wear during practice.

ST: Detail for us the construction stages and the steps it takes to create a quality playing field.

PRICE: The field construction stages are fairly simple. The problems usually arise in dealing with other contractors around the field such as fencing, seating, and lighting. There always seems to be someone who thinks it is necessary to drive a concrete truck across the field after the grass is down. This goes back to coordination with other contractors during the planning stages.

By the time construction begins, we know what our drainage and irrigation layout will be and what soil materials and modifications will be needed. The sequence of installation varies depending on whether we are dealing

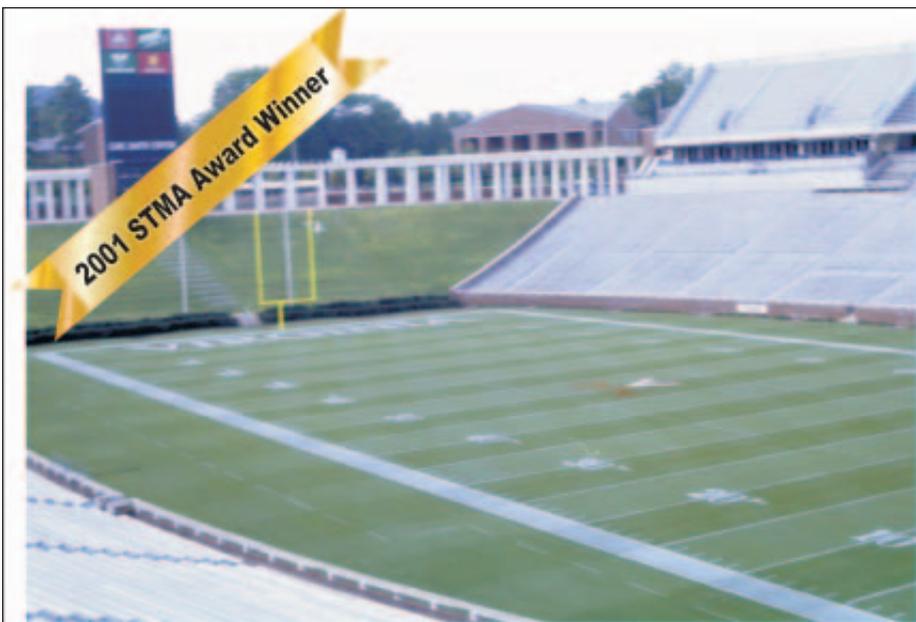
with sand-based, modified soil, or native soil fields, but they all start with a laser graded sub-grade that is a mirror image of finish grade. Once the base is perfect, we install drainage, irrigation, soil mix, infield mix, and warning tracks with the use of our laser guided equipment. Sometimes drainage precedes irrigation or vice versa, depending on the type of field design, but each step is followed with the laser grader to true up the elevations as we build the soil profile. When building a modified soil field, we install the rootzone components with our laser grader in precise increments, and then use specialized blending machines in the field to create uniform rootzone over all portions of the field.

After all components are in place, tested, and operational, we install the sod, sprigs, or seed and provide a grow-in program. It is always a good idea to re-test the irrigation system before ordering the grass. Things have a way of getting damaged on a construction site, and realizing someone has cut your irrigation main line when you have truckloads of sod in the parking lot is not a good thing.

ST: Describe some of the laser-guided equipment that you use, the tasks that each piece of equipment fulfills and the biggest benefits of using laser-guided equipment.

PRICE: Laser guided equipment is a daily part of our work. We use automatic laser grading systems on dozers, track loaders, and high flotation tractors on all aspects of field installation. The equipment is adjustable to within 1/12th of an inch and available in flat, slope, dual slope, or cone configurations. We install drainage lines with laser guided trenchers to achieve precise fall in the lines. The speed and accuracy with which we can bring a field to grade makes it a must in our work. Without question, any field construction project should have laser grading outlined in detail in the specifications. With laser grading, you get a field free of birdbaths and humps and bumps.

ST



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