

Irrigation system scores several goals

BY CHRIS HARRISON

The American Hebrew Academy has a twist on the old rule of physics. Their variation would say, "What comes down must keep going down." While they have a state of the art irrigation system, they want the water to keep moving through the profile of their showcase soccer field.

That was one of several goals when the Greensboro, NC facility was built.

"The field was designed to enable quick drainage to allow playing at any time," says Todd Kowalsky, facilities superintendent at the American Hebrew Academy. "Whether it is irrigation or natural rainfall, there isn't a time when we can not play on the field. The drainage system was specifically designed for the location," he adds.

Like other sports fields, there is a crest on the field. But it is not enough to provide natural drying. The underside of the field is a clay-and-sand mixture, Kowalsky continues. "It works really well."

The field will drain over seven inches in a 24-hour period.

The soccer field is used by both the boy's and the girl's teams. It was started in 2002 as new construction, and the project took about a year to complete. Along with a separate baseball diamond and two practice fields, it is the centerpiece of the

school's athletic program.

Even in the rain-rich Carolinas, it is the irrigation system that keeps the turf growing.

"Our goal was to provide an efficient irrigation system utilizing the highest quality products, professional design and installation procedures," says Gary Comer, irrigation manager at Turf Service, Inc. (TSI). He knows that, in every case, accomplishing those goals will provide the athletes with a high-quality and safe playing surface.

All of the main athletic fields were sodded with TifSport Bermudagrass. The margins were seeded with a blend of fescue grasses.

Kowalsky is pleased with the TifSport. This year is the first year that they have gone back and done some re-sprigging.

They do not overseed. "We leave it dormant," Kowalsky says. "Overseeding with rye just increases the maintenance cost. It is something I don't choose to do."

The field does not suffer from not being Kelly green. "It holds up very well in the wintertime, even if the students use it," he says.

Southern Seeding in Greensboro laid the sod and contracted TSI and Carolina Green, Charlotte, NC to perform the irrigation, laser grading, and drainage systems. Southern Seeding managed the project and installed the sod. Smith Turf & Irrigation provided the irrigation components and design work.

Irrigation components

As with any large-scale sports turf irrigation project, there was a wide array of materials used to accomplish the end-goal. Different irrigation units were used on the athletic fields themselves than were used on the general turf.

According to Mark Scruggs, (CID), at Smith Turf & Irrigation, the basic package for the athletic field sprinkler heads consisted of 115 of the Toro 640-series Check-O-Matic units. Of those, 80 were 360-degree drive assemblies. There were 20 half-circles, seven 192-degree drives and eight 173-degree arcs.

Outside the sports turf area, they used Toro 570 and S700 series pop-up sprinkler heads. The job called for 134 of the S700 3-inch part circle pop-up units with 3 gpm standard angle nozzles. There were 42 full-circle 3-inch pop-ups with 6 gpm standard angle nozzles.

The job was built around Toro automatic irrigation controllers. All five of the controllers used are equipped with rain sensors.

They used 44 of the 1.5-inch Toro 252 series globe/angle electric valves with flow control and four Toro 250 series globe with flow control electric control valves.

The job ate up over three miles worth



The sprinkler head package was 115 Toro 640-series Check-O-Matic units.



From left, Chad Price, Carolina Green, did the grading and drainage system; Garry Comer, Turf Service, did the irrigation installation; and Toby Vinson, Southern Seeding, was responsible for the turf install at Hebrew Academy.

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of solvent-weld PVC pipe. Included in the project was 3880 feet of 1-inch 200 pipe, 6180 feet of 1.5-inch 200 pipe, 6020 feet of 2-inch 200 pipe and 1960 feet of 2.5-inch 200 pipe.

Scruggs furnishes the design work for 90% of Turf Service’s athletic field projects, including the American Hebrew Academy. As a rule of thumb, he estimates the cost of fittings at 30% of the total cost of pipe.

“We try to pay special attention to common wear patterns of athletic fields and zone sprinklers to irrigate these areas accordingly,” says Mike Young with Turf Service. “For example, we almost always zone the system on football or soccer from end zone or goal to end zone or goal.

“Experience has shown us that the most wear takes place in the middle of the field (each side of the 50 yard line) and that should run separately. Even in situations where the water supply is adequate to irrigate end zone to end zone, the irrigation requirements of a playing surface will vary.

There are other, practical considerations. “Large zones limit your management options,” he adds.

All valve boxes are kept off the playing surfaces.

Turf Service manages the athletic field turf complex, including all of the mowing. “We will apply approximately three-quarters to a full inch of water during the summer growing season per week,” Young says. There are no plans to use the irrigation system for fertigation or similar uses.

“Our biggest problem was managing the water in the D shafts of the field,” TS says. After some puzzling, they came up with a fairly straightforward solution. “We decreased the size of some of the nozzles to eliminate some wet areas.”

Around campus

American Hebrew Academy’s main goal is to provide a liberal Jewish boarding school education for students in grades 9-12. In addition to college preparatory courses, the students delve into Jewish studies, athletics, and other school activities. Classes never are larger than 12 students per teacher.

Sports play a big role in student life. The school completed a new 88,000 square-foot Athletic Center in January 2005 that will be home to its 8-lane swimming pool, wrestling, lacrosse, field hockey, aerobics, dance, fencing and a rock climbing wall.

American Hebrew Academy has the largest closed-loop geothermal system in the world. The 500 wells that feed the system are located under the grandstands at the soccer stadium. There are two separate well systems that provide geothermal heating for all of the buildings on the 100-acre, largely wooded campus.

The geothermal system was in place before the soccer field was built.

As a premier athletic installation, the crew at American Hebrew Academy chose to outsource the sports turf to TSI. “If I have questions about what they are doing, I contact the company and be sure they stay on course,” Kowalsky says.

Problems are few. TSI maintains both the soccer and baseball fields and the practice facility. “That process is more involved than the grounds maintenance,” Kowalsky says. “We don’t use reel mowers on the rest of campus. It is simply more cost-effective right now to outsource and TSI does a great job.”

Outdoor lighting is currently being installed on all of the outdoor fields.

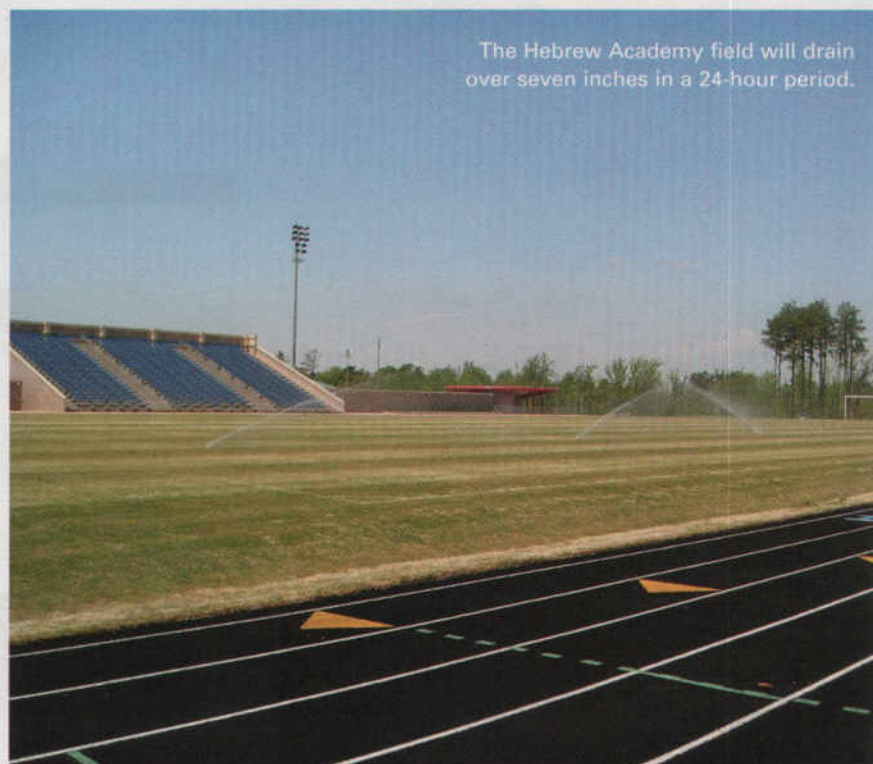
In addition to the mowing, aeration and top dressing are functions of the maintenance program and are performed as needed.

While the athletes at the American Hebrew Academy are happy with the field, the installation brings a special glimmer of pride to the installers. The irrigation team pulled together to make it all happen and there are plenty of high-fives to go around.

“We always appreciate the opportunity to work with Ralph Stout at Southern Seeding and Chad Price at Carolina Green,” Young says.

Speaking for the team, Young adds, “We are proud of the finished project and feel fortunate to have been a part of it.” **ST**

Chris Harrison is a veteran turf writer based in Ohio.



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