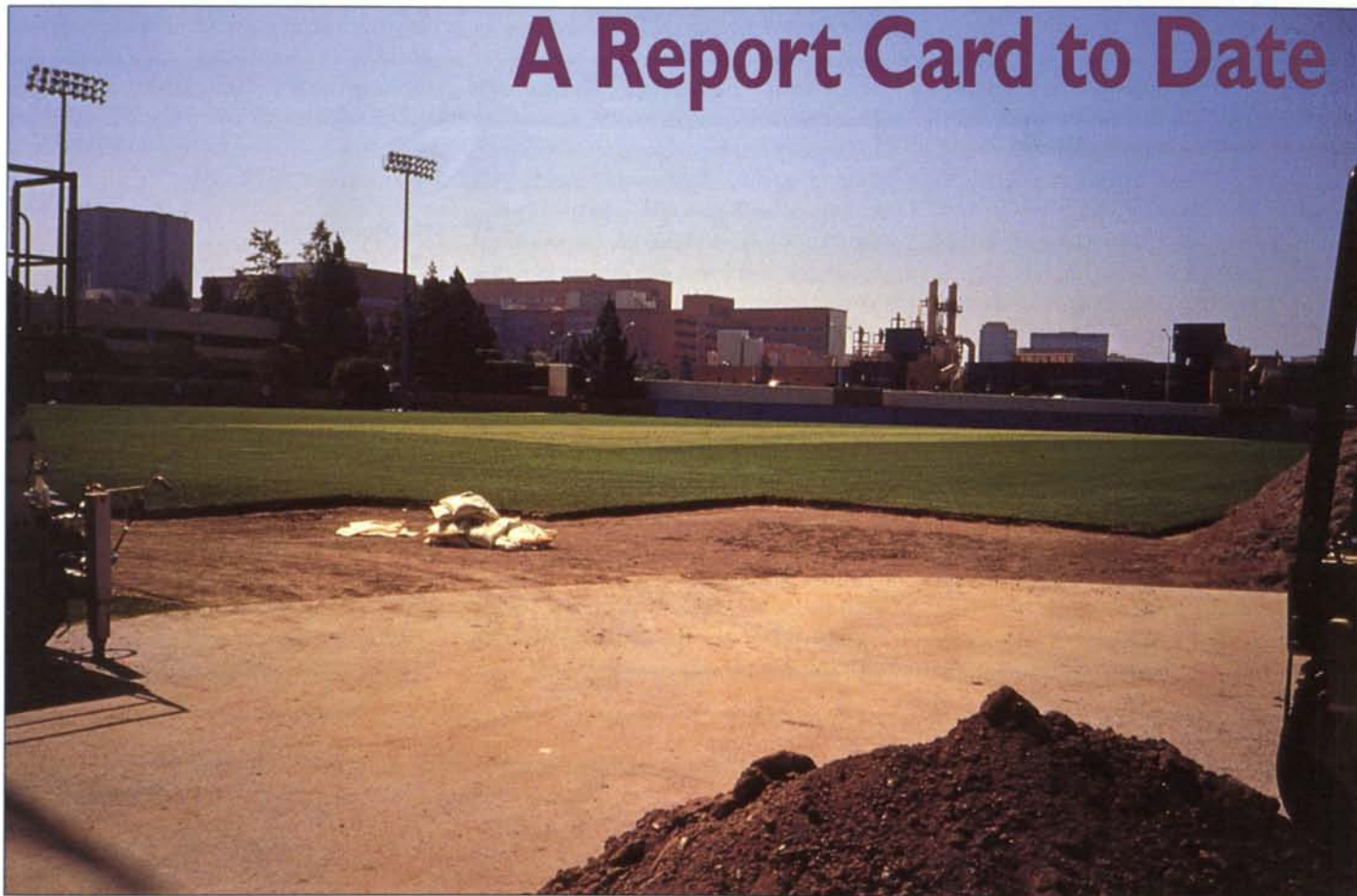




Buried Structures: A Report Card to Date



By Steve and Suz Trusty

Traffic and sports turf go together. The turf provides athletes with a safe, reliable surface on which to play, but the nature of that traffic often makes sports turf management a challenge. Big, burly football players dig in to hold that line. Fleet-footed soccer players attack the goal mouth again and again. Baseball fielders cut in with their cleats as they tear across the outfield after a high fly ball. Sleek race horses slice through the turf with pounding hooves as they head for the stretch.

All these elements add excitement to sports but put turf to the test. Turf stress is caused not so much by the pure power and weight that athletes put on the field but by the fact that they so often concentrate that power and weight in the same spots.

Sports fields are subjected to other traf-

fic, too, such as the foot traffic of spectators crowding onto the field to celebrate a win and the vehicular traffic involved in moving materials and equipment. Game fields may be used for concerts and other special events. Practice fields frequently double as parking lots.

Sports turf managers are constantly exploring alternatives to help turf handle this stress. Among the options currently being investigated are rootzone structures — elements blended within the soil profile to add support, decrease compaction and form a more compatible environment for grass roots, including improved aeration and water percolation. Two products currently being tested in the U.S. are TurfGrids and Netlon Advanced Turf System.

Information supplied by the company describes TurfGrids as “a patented, nontoxic polypropylene fiber designed to stabilize sand-based sports turf. Turf

Buried structures are elements imbedded within the soil profile to add support, decrease compaction and form a more compatible environment for grass roots, including improved aeration and water percolation.

Grids increase the load bearing and shear strength of the playing surface. The results are sure footing, less divots and fewer injuries.”

Netlon Advanced Turf uses small (two-inch by four-inch), springy, interlocking polypropylene mesh elements randomly oriented and blended uniformly with a selected high-sand-content rootzone medium. The company says this design “increases impact absorption, reduces surface damage and accelerates recovery, reduces soil compaction,

increases infiltration and aeration and increases traction."

We called on some turfgrass experts to create a partial "report card" on these products to date.

Don Hatcher and Tom Foley of The University of Oklahoma in Norman, report that they are testing TurfGrids as compaction relief for the problem area along the sidelines of the football field. The product was installed last year. The entire field was graded, and the material was tilled into the sideline area. After tilling, the installation area was a few inches higher than the rest of the field. In retrospect, it would have been better to remove some of the sand before tilling in the grids. The contractor attempted to put the material down with tampers with some success. Grading the installation area was also a challenge for the contractor.

Sod was laid on July 4, and the first game was played on September 17. The Sooners played five home games, with a practice every Thursday, and some high school playoff games were also held on the field.

An infrared alarm system was installed around the perimeter of the field, which did dig up some of the installation area. Some problems occurred due to the interface layer caused by the soil on the sod and the sand profile beneath. Core aerating twice helped the interface problem and improved drainage. Also, the stadium acts like a big bowl, channeling everything from the top down onto the field.

To date, they have not noticed any real difference between the sideline wear and that on the field, although with all the things done to the field this season, it is hard to tell. They will continue to monitor results. They also heard about Netlon ATS while at the STMA annual meeting in Bradenton, FL, and would also like to look into that.

David Ashman, athletic facilities manager for UCLA Intercollegiate Athletics in Los Angeles, reports on Netlon ATS trials in a high-traffic area near the main entrance of the stadium at UCLA, the first area that any UCLA recruit sees when visiting the campus. Forty different vehicles garaged on site have to get on the field through this entrance. TV and emergency standby equipment go on the field there. Before

test installation, the area required resodding two or three times a year.

Ashman looked at lots of data and thought Netlon ATS had the best chance of solving his problem. Three test plots have been set up at the field entrance: one to Netlon ATS specifications, one check plot and one plot modified to try an installation alternative. Plots were installed in mid-June 1994.

The Netlon ATS test area maintained color and vigor throughout the test. Even though grass growth was slowing down in November, the color was still good. No resodding was necessary.

When high-traffic spots started to show some yellowing, play was shifted to a different area. There was quick regeneration and no compaction underneath.

November is when bowl invitations are

seem to make the soil harder and the sand more stable. More time is needed to evaluate results.

Darren Varner of HOK Sports Facilities Group was in charge of both the Arrowhead Stadium and University of Oklahoma installations. Varner reports that while TurfGrids were considered easier to work with than Netlon ATS, actual installation of TurfGrids was "really hard." He thinks the TurfGrids material was OK to install on a small area but would be difficult on a large area.

Both TurfGrids and Netlon seem to be difficult to grade. Varner thinks an inch of topdressing over the profile would produce a different layer that would not have the beneficial characteristics for which the product was used in the first place.

Varner reports no negative effects



Sports fields, such as this one at UCLA, are subjected to other stress, too, such as vehicular and foot traffic.

extended and when NFL scouts make decisions; therefore, it is the time when an athlete could be more susceptible to injury, especially if the field is showing extra wear. The athlete needs the best competitive playing conditions. Ashman says that it appears that the Netlon installation can keep the field in top condition all season long.

Ashman is planning a trial on the playing surface. If that succeeds, he will want it on the entire field.

Andre Bruce, turf manager for the Kansas City Chiefs, reports that TurfGrids were installed on the sidelines and behind the goal posts at Arrowhead Stadium in June 1994 to stabilize the soil in these high-traffic areas. The TurfGrids

so far, but he has not seen any difference. The installation of TurfGrids has not affected drainage and certainly has not slowed it down. More time is needed for evaluation. Varner will need to see positive results to be convinced that installation is worthwhile. Naturally, if anything goes wrong, the new product will be blamed.

Mike Heacock, vice president of maintenance for American Golf Corp. in Santa Monica, CA, is using Netlon ATS in a tee area to reduce compaction. The Netlon ATS profile extends to an eight-inch depth. Heacock cautions that the grading needs to be done carefully to avoid dragging the material up or carrying it

continued on page 32



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Buried Structures

continued from page 31

to other areas. He believes the material does what the company says it does — sticks together and becomes very structured. When in place it seems to work well.

The Netlon ATS installation tee has more traffic than the rest of the tee box, so direct comparison is difficult. The area had always been a problem. This was not the case this year.

At this point, Heacock could not say anything conclusively about any of the products, but he believes Netlon ATS has some possibilities and intends to do some more testing and monitor results over a longer period.

Mike Hurd, grounds superintendent for the Pittsburgh Pirates spring training facility at Pirate City in Bradenton, FL, reports a Netlon ATS profile plot has been installed on the one-half field at Pirate City. The plot extends from in front of home plate to the pitcher's mound and is at least ten feet wide. The team began playing on the field within two and a half weeks of the installation in late November and played on it every day for two weeks straight.

At this point, Hurd reports much better rooting in the test plot. The turf with Netlon ATS shows little or no damage visible, while the adjoining area just beyond the test shows visible divots and scarring.

The Netlon ATS has stabilized the sub-surface. Crew members drove equipment on it, made sharp turns and did everything else they could think of to test it, and they had no problems. The area also drains very well.

Hurd thinks Netlon ATS has definite potential in high-traffic areas, including such spots as around home plate, in front of the dugout, the on-deck circles and coaches boxes. In some of these areas clay could be replaced with grass for better aesthetics and reduced maintenance. He thinks the higher initial costs would be balanced by reduced overall long-term maintenance.

While the report cards are still being tallied, investigating possible solutions is the only way to solve problems. □

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