

Giants Stadium Tests a New Field-on-Wheels



If the ITM system survives the test at Giants Stadium this year, the New York Jets and Giants will consider adopting the "field on wheels" for their home games next year. Photo courtesy: Chris Scott.

What do the New York Giants, New York Jets, rock concerts, and New York/New Jersey MetroStars all have in common? And what sets the MetroStars apart?

The common denominator is they are all tenants of Giants Stadium, owned and operated by the New Jersey Sports Authority. The distinguishing factor is the MetroStars require a natural-grass playing surface, while the playing field in Giants Stadium is AstroTurf.

This presented a dilemma for the Empire Soccer Club, owner of the MetroStars. How would they meet the natural-grass requirements of Major League Soccer in a venue housing an artificial playing field?

They're trying a portable turfgrass system, and if their experiment at Giants Stadium works out, turf managers will have a new, flexible tool for

effectively accommodating a wide range of activities. Managers can rely on a hard surface for turf-torturing events like rock concerts and tractor pulls, then turn the venue around and serve up the soft natural-grass field that most athletes prefer.

Exploring Possibilities

In December of 1995, the Empire Soccer Club authorized the Clark Companies of Delhi, New York, to study the possibilities of installing a permanent natural-grass field in Giants Stadium. A month later, John Hilson of the Clark Companies organized a research conference — hosted by the State University of New York at Delhi Turfgrass Division — to explore and discuss the possibilities available in natural-grass systems. Several days of meetings and phone conferences

included discussions with Dr. Norman Hummel, president of Hummel & Co. Inc.; Charles Dixon of Turf Diagnostics & Design; Dr. John Rogers III of Michigan State University; and David Potts of SubAir Inc. Subsequently, Scott Clark, president of Clark Companies, returned to the MetroStars with the opinion that no grass-reinforcing system, even combined with climate control, could stand up to the rigors of Giants Stadium.

Based on the conclusions of this study, the Empire Soccer Club hired Clark Companies to construct a temporary grass field in Giants Stadium for the 1996 MetroStars' season. The field was constructed in the spring and removed prior to the NFL pre-season schedule.

While successful, this seemed a temporary solution. Investigation continued into developing a more perma-



A new mold developed last winter produced a much improved version of the polyethylene ITM module. In the background are two modules aligned and locked with foot locator pads. Photo courtesy: Chris Scott.



The modules were filled with a growing medium and sodded in the parking lot prior to installation in the stadium. Photo courtesy: Chris Scott.

ment and cost-effective solution, rather than to continue building and discarding a temporary field year after year.

Toward the end of 1996, discussions centered around using a modular natural-grass field. This idea had been discussed at the January conference but was dismissed at that time. However, improvements made to the Integrated Turf Management (ITM) system, marketed by the GreenTech Company of Richmond, Virginia, led to reconsidering this concept.

A transportable natural field, the ITM system consists of square, interlocking plastic modules, commonly called "Grass Squares," containing a prescribed growing medium and turfgrass. In December of 1996, GreenTech received word from its European distributor, Bryan Wood, that a new high-density mold for manufacturing the polyethylene plastic modules had just been completed.

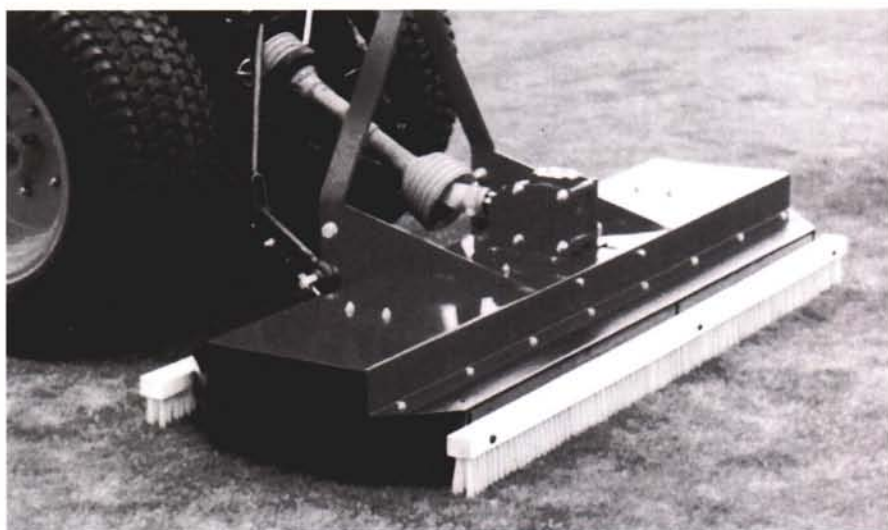
The new mold design produced a much-improved version of the ITM module. That same month, Scott Clark contacted Chris Scott of GreenTech to investigate the possibility of placing the ITM system in Giants Stadium for the soccer season beginning in mid-April. As negotiations ensued, the new module began testing. In February 1997,

the Empire Soccer Club and Clark Companies struck a deal — Giants Stadium would become the first commercial installation of the ITM system.

Tiling the Floor

The process turned into an adventure. The modules had to be manufactured, shipped, filled with the sand/soil medium, sodded and rooted, and ready

for the first MetroStars home game in 10 weeks. Even with a well-established system, meeting the deadline would have been tough. With the young, redesigned system being installed on an unprecedented scale, it presented a real challenge. It all had to be done in February, March and April when Mother Nature hammered the Northeast with harsh winter weather.



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The GreenWay "brainstorming team" that proposed the concept of the transportable turfgrass modular system display the first model, a one-square-foot aluminum version. Front row: Dr. Henry W. Indyk, turfgrass consultant (left); Dr. Richard Caton, coordinator of Consulting Services. Back row: Steve Cataldo, Greenway V.P. (left); Tom Ripley, Greenway president. Photo courtesy: Henry Indyk.

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You've Come a Long Way, Baby

The ITM system has come a long way in a relatively short time. In 1990, inventors Tom Ripley, president of Greenway Services, and Dr. Henry Indyk, formerly of Rutgers University, began working on the concept of grass squares and soon developed a design consisting of metal connecting trays. Dr. James Beard and Arthur Millberger of Millberger Sod in Bay City, Texas, studied the design during a research project and concluded the modular system would be an effective way of converting synthetic playing surfaces to natural turf. A successful installation of portable grass modules in the Pontiac Silverdome for World Cup Soccer in 1994 bore out their conclusion. About the same time, Ripley and Indyk installed a new plastic-wooden version of modular turf at Baltusrol Golf Club as a practice tee for USGA's U.S. Open in Springfield, New Jersey. That too proved successful. Modular turf was ready for the next level.

To take it there, Greenway Services and Enterprise Developers Inc. (EDI), a Richmond, Virginia-based firm, created a new company, GreenTech, which was founded and is partly owned by a group of Major League Baseball and NFL football players. With Tom Ripley as president and Chris Scott (executive vice president of EDI) as managing partner, GreenTech took control of all domestic and international patent and trademark rights, then began to build a high-density plastic mold that would produce the ITM module. Bryan Wood, of Systems Matrix in England, joined GreenTech as a distributor and contributed to the time-consuming, frustrating process of perfecting the mold.

The first batch of 336 modules — each 48 inches square and 11 inches deep — was molded and shipped directly to Giants Stadium. John Hilson and his crew from the Clark Companies unwrapped and aligned the empty modules in a staging area in the stadium's parking lot, then locked the sides of the modules in their upright positions for the rootzone-component loading phase of the project.

Crews filled the modules with a sand/organic rootzone mix over a graded, pea-stone aggregate designed to provide efficient drainage. Excess water flows at a rate of 8 inches per hour through channels molded into the modules' pallet-style bases and out the stadium through the current drainage system. The design also allows the rootzone to be ventilated with forced air from below the field for aeration and for cooling the turf in summer and warming it in winter.

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The Baltusrol practice tee was worn to the ground by the end of the practice rounds of the U.S. Open, then was replaced with fresh turf for the opening round. Photos courtesy: Henry Indyk.

sand/organic profile was compacted and sodded with rolls of Kentucky bluegrass shipped from Jade Run Sod Farm of Delaware. Crews were able to complete 500 to 600 modules a day. Before the project concluded, more than 6,100 modules would be needed.

When it became obvious that the sod in the ITM modules would not be rooted deeply enough in time for the MetroStars' opening game on April 10, a temporary grass field was installed in the stadium. With the root system in the modules sufficiently developed, the temporary field was removed and the ITM field installed following the MetroStars' game on May 4 and prior to their game May 9.

Once the changeover began, the modules were separated and wheeled into the stadium on forklifts and flatbed trucks — which took about 80 hours. Like a tiled floor, the modules were installed on top of a 40-mil plastic liner and plywood layer that covered the stadium's synthetic playing surface. The sides of the modules were then folded down to allow a soil-to-soil compression joint with adjacent modules. Finally, the modules were aligned and locked into place with a foot loca-



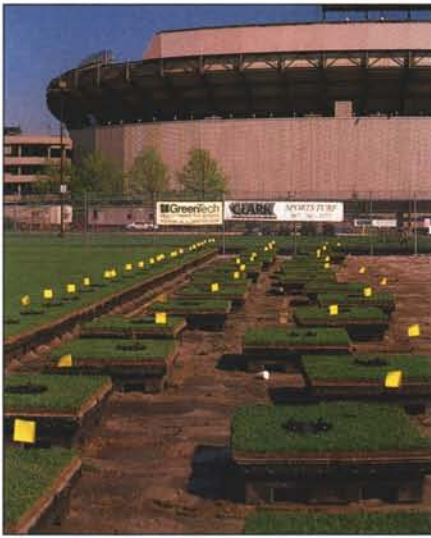
tor pad, designed to create a safe, solid natural-turfgrass field without seams or modules separating during play.

Come summer when concerts are scheduled, the Grass Squares will be removed from the area of the field where stages will be constructed, while the rest of the field will be covered with the Terraplas protection system.

For NFL football games this fall, the entire field will be dismantled and stored in a lot outside the stadium. Both the New York Giants and the Jets will evaluate the performance of the Grass Squares this year for a possible permanent conversion to natural grass for next year's home games.

The Next Level

In addition to serving the MetroStars in Giants Stadium, the ITM system is being tested at the Sports Turf Research Institute in Bingley, England, to develop standards and specifications for the system's various applications. For football, those include quickly repairing worn sections of a field with fresh, mature turf or replacing entire end zones to save repainting them. For golf, tees can be rotated or changed. Greens can be constructed from concrete pads topped off with the ITM system, allowing for drainage and aeration of the turfgrass as well as a way to control or re-use chemical run-off so it doesn't affect the environment. □



Over 6,100 modules were prepared for Giants Stadium's conversion last May. Photo courtesy: Chris Scott.