SPARTAN STADIUM FIELD CONVERSION UPDATE: WINTER 2003
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In December 2000, Michigan State University began the process to convert Spartan Stadium Field from artificial turf to natural grass. Considerable energies went toward the decision as to the field system type. A modular (ITM modules, GreenTech, Richmond, VA) system was determined to be the best fit for the situation. This system is similar to the one developed by MSU scientists for the 1994 World Cup matches at the Pontiac Silverdome. The major benefits of a modular field include rapid drainage and air exchange as well as ease of field replacement and environmental control of the root zone. Worn modules can be removed, replaced and ready to play on in a matter of hours; and heaters can be implemented to keep the root zone warm enough to provide favorable growing conditions late in the playing season. In addition, by far the biggest advantage in terms of the first year of a typical athletic field, the modular system allows for remote planting and maturation. What this means is that the modules do not have to be seeded and grown at the playing field site. This benefit is allowed Spartan Stadium field to be seeded in May 2000, mature throughout the next year, and be 16 months old before play began in September 2002.

Construction of Spartan Stadium began in March 2001. Thirty five people and 3 University farms helped to fill 6,000 modules with gravel and a 90% sand, 10% silt + clay root zone. Of these 6,000 modules, 4,800 were used for the field and the remaining 1,200 were used for a replacement nursery. This process took approximately one month.

In May 2001, Clark Companies (Delhi, New York) came to MSU to place the modules in the exact configuration of Spartan Stadium on a asphalt parking lot, add 4 more inches of root zone, and do a final grade. This took approximately three weeks. On May 25 the 13-25-12 starter fertilizer was applied to the surface. On May 26 the field was seeded with Kentucky bluegrass at a rate of 1.3lbs/1000ft^2. The seed was sown with a Brillion seeder and a rotary spreader. The 9 varieties of Kentucky bluegrass used were: Champagne, Coventry, Limousine, Midnight, Moonlight, North Star, Rugby II, Serene, and Unique. Through the rest of the spring and summer, the field matured as we controlled weeds, mowed, watered, and fertilized regularly. Beginning late summer and continuing through fall the field was frequently topdressed to achieve an extra ½ inch of root zone. In mid-November, a snow mold treatment was applied. With the closing of 2001 and a healthy, mature Spartan field, phase one of the Spartan Stadium Conversion was completed.

Phase two began the second week of December with the tearing out of the Astroturf currently in Spartan Stadium. The stadium floor was lowered 0.75 feet to maintain the current stadium sightlines. Concrete boxes (4'x 4') were installed the length of both sidelines at surface level for heating underneath the field. There are small openings in the concrete to match the openings of the modules to allow airflow. 4 Million BTU heaters are attached to an opening in the box and the air is pumped into the box and underneath the field.

Before the asphalt surface was laid in May 2002, a four-row irrigation system was installed. Valve boxes with quick couple connections were placed every 60 feet in the floor. This allowed

for heads to be installed in the field. In addition, these heads can be replaced if damaged without disturbing the whole system.

On June 10, 2002 the field installation phase (three) began as the first of 300 loads of modules came into Spartan Stadium on MSU hay wagons, transported from the HTRC. The farm tractor and wagon system was ideal for its availability and the lack of load limit issues.

Kares Construction Company, Lansing, MI, performed the installation process with Clark Construction Company as advisors. This installation was unique because of the dimensions of the stadium and the floor. While the field is portable, the access track around the field is fixed. Because the access track is the same height as the field, this track is approximately 9 inches above the asphalt floor in the stadium (the height of the boxes filled with root zone and turf). The field has to be placed in this recess with little margin for error, a first of its kind in this respect. The installation was completed on June 14, 2002, with the last module literally craned into place. (This placement of this module was symbolic in reminding all of how unfriendly Spartan stadium is to portable turf installations, and how repeated exercises of this nature are not necessarily a good idea.)

Before each module was installed, a 2-inch wide piece of weather stripping was placed at the top of each box. This piece was intended to provide seals between modules to improve heating and airflow capabilities. The installation went very smooth, thanks to all the effort and hard work involved beforehand.

Eric Adkins, CSFM, took the field over once inside Spartan Stadium and began to prepare it for the season. He rolled the field and repaired a few seams and performed general grow-in strategies. The field was painted for the first time in early August. The team used the field for two preseason scrimmages in mid-to-late August. (In addition, the team insisted on having a Thursday evening practice on the field for the first 6 weeks of the season.)

The first game (of an 8 game home season) on the field was August 31, 2002 against Eastern Michigan University. This was the first game of a 5-week home stand with games each Saturday in September. After game 5, the field was bruised, but no need for any module replacements. This is a direct tribute to the seeding of the field and the maturity of the turf. Graden cultivation as performed on the field the first week of October. Grow blankets were used beginning in early October to repair worn areas. Games 6 and 7 were the last two Saturdays in October. Game 8 was in mid-November. The field was slightly frozen for game 8 as the heaters, while tested, were not used at the stadium this season due to lack of understanding on their effect on agronomic properties of the turf. Simulation studies with the modules and heaters were begun in November 2002 to anticipate future needs.

The success of the field allowed the Turf Management team at MSU to shine. The program displayed its abilities to think through and anticipate issues and answers before they become problems. Many people gave tremendous amounts of their time and effort to this project and all of the University will be indebted to them.