Spreading the 2" sand layer was easier and faster than expected.

Building Greens the Right Way — It's Easier Than You Think!

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THE FIRST inclination that I might be involved with the reconstruction of greens came in my interview with the Selection Committee at Tulsa Country Club way back in 1981. Four and one-half years after answering "yes," we began the reconstruction process.

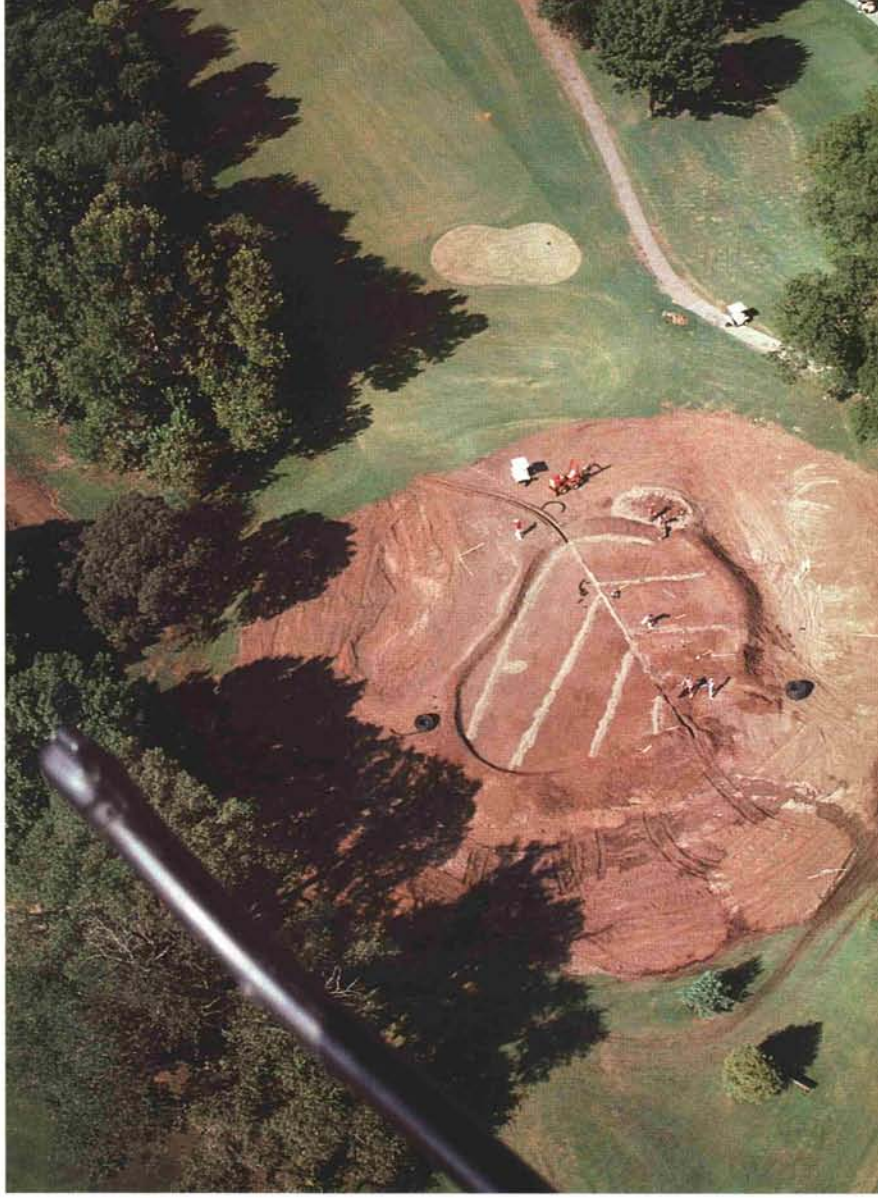
I'm sure that many clubs face the expensive and difficult task of rebuilding their greens. I am also sure that they too will hear experts claim the process can be made simpler and less expensive by modifying the USGA's specifications for putting green construction. What follows is a chronology of how we at Tulsa Country Club accomplished this major improvement to our course.

On October 13, 1953, Dr. Marvin Ferguson, who was then Director of the Southwestern Region of the USGA Green Section, visited Tulsa Country Club and pointed out that the original greens were built on a heavy, dense soil. As the years passed, various techniques and construction methods were tried in an attempt to help our bentgrass greens survive the searing heat of an Oklahoma summer. It was finally decided by the green committee in the early 1980s that this time we would build them by the book.

Although our new greens opened for play in March of 1986, the first steps took place nearly two years earlier. Jim Young and Dave Thompson, co-chairmen of the green committee, began selecting an architect. The architect chosen would have the delicate task of preserving the beauty and insight of Albert W. Tillinghast, the original designer. Finally, after many calls and interviews, Jay Morrish and Associates was selected. Our original plan called for rebuilding all the greens. After presenting the plan to the membership, it was decided to rebuild only the four more troublesome greens — the second, fifth, 15th, and 16th.

Now that an architect had been selected and the decision reached as to which greens would be rebuilt, the next step was to select a contractor. Once again, after more calls and more research, we decided on Dewar's company, of Plano, Texas. A legal contract was drawn up that included requirements to build the new greens in strict accordance to the USGA's Specifications and specifically called for inclusion of the two-inch coarse sand layer, off-site mixing, laboratory testing of the mix by Agri-Systems of Texas, and fumigation of the mix prior to planting. Construction would begin August 19, 1985.

As so often happens, once construction began we realized we had an opportunity to correct other problems at the same time. We decided to include the tees of the third, fifth, sixth, and 16th holes in the reconstruction process. On August 27, Jim Moore, Director of the Mid-Continent Region of the USGA Green Section, arrived for his annual Turf Advisory Service visit. On Jim's recommendation and after approval by the green committee, we decided to rebuild the 17th green as well. We also discussed in great detail the necessity for using the proper mix and frequent testing to insure conformity to the Specifications throughout the construction process.



IN OKLAHOMA we are fortunate to have a wide diversity of soils, sands, and gravels. Samples from each of the local sand companies, along with various peats, were forwarded to the Agri-Systems lab for testing. It was determined that one company had an excellent sand for the mix while another company's sand was ideal for the two-inch coarse sand layer. The final topmix was to contain 85 percent sand and 15 percent peat. All the mix was prepared on an adjacent parking lot and samples again submitted to Agri-Systems to insure the mixing process was adequate.

In the meantime, the construction of the greens base and installation of the drain tile began. To insure proper functioning of the perched water table integral to the USGA method, the subgrade was prepared to match the contours of the final grade as exactly as possible. By doing so, the depth of the topmix would be consistent throughout the green. The drains were installed and the four-inch gravel blanket spread.

As in many green construction projects, the next step was perhaps the most controversial. Both our architect and the construction company suggested we could eliminate the two-inch coarse sand layer to reduce costs. The rationale was that the layer was too difficult to spread and would involve too much hand labor. Personally, I did not want anything less than complete compliance to the Specifications. After all, I would be held responsible for the greens long after everyone else had gone. My green committee chairman called Jim Moore that evening, and the decision was reached to include the coarse sand layer. Beginning the next day, my crew and the construction crew spread the layer. Less than two days later and for only $1,100, the controversy ended!

As the topmix was moved onto the greens, the crew installed the new perimeter irrigation system. With the aid of Roger Van Leeuwen, our local irrigation distributor, a two-headed system was installed. In Oklahoma, bentgrass greens require much closer water management than the surrounding bermudagrass aprons. By installing two heads back-to-back and on separate controllers, we are able to water appropriately for each turf species.

After all the mix had been installed we again were faced with a controversial decision. The USGA strongly recommends fumigation to eliminate weed, insect, or disease pests that may have contaminated the mix. The argument was made that contamination was unlikely, since the sand came straight from the plant. Once again I felt that after all this effort, now was not the time to cut corners. Fortunately, Bob Randquist, of Southern Hills, a good friend and fellow superintendent, had recently completed a fumigation and replanting job of his own. Borrowing both his equipment and his experience, we accomplished the job in three days for $1,500! Another controversy put to rest.

FINALLY, the greens were seeded on September 12, 1985. Six months later and in time for our first spring tournament, they were opened to play. Obviously a project such as this is a major step for any club, and it requires a great deal of effort from all those involved. To insure success at your club, I would offer the following suggestions:

1. Involve professionals every step of the way. The architect, the contractor, the testing laboratory, and the USGA, all should be part of the construction team.
2. Throughout the project, communicate as much as possible with your membership. Giving up part of their course for six months is much more bearable if they feel the end result will be worth the inconvenience.
3. Allow adequate time for the new greens to mature before returning them to play.
4. Take pictures of every phase of the project no matter how minor it may seem at the time. Pictorial records will someday prove invaluable to you or the next fellow.
5. Finally, don't let anyone talk you into cutting corners. Remember, it is your responsibility to protect the best interests of your membership.

(Opposite page) Aerial view of 16th green.

(Above) Mix was prepared and stockpiled off-site . . . and then tested again to insure proper proportions.

(Left) Final insurance — gassing to eliminate pests.