Renovation at Rolling Hills

Rebuilding just a few greens on an older course can be tricky and has to be done correctly.

BY BOB KINDER, MARK CONDON, DAVE WEISS, RICK PHELPS, GREG BARTOLD, JEFF GAMBLE, AND MATT NELSON

Putting green reconstruction involved minimizing disturbance to the surrounding area. Notice the putting green turf that has been stripped and set aside on plastic for reuse.

Many golf courses across the United States are eventually faced with the need to rebuild one or more putting greens due to catastrophic events, property sales, design issues, or other reasons. Such was the case at Rolling Hills Country Club in Golden, Colorado. The severe putting green contours of this 1968 Press Maxwell design rendered a majority of the hole locations on four of the greens questionable at best, with green speeds faster than 8 feet as measured by the Stimpmeter. USGA Green Section reports dating back to 1982 discussed the possibility of reconstructing these four greens to improve playing quality by diversifying setup possibilities and more equitably distributing traffic across the putting surfaces. By 2002, the club had approved a plan to rebuild these four greens, but the severe drought that had gripped Colorado postponed construction until fall 2003.

The following article summarizes the perspective of the various people involved with this project, including the golf course superintendent, general manager, green committee chairman, golf course architect, golf course builder, and USGA agronomist. This overwhelmingly successful project depended upon a well-conceived plan, thorough education of the membership, the selection of experienced personnel, and a talented and diligent golf course superintendent.

BOB KINDER, CGCS — GOLF COURSE SUPERINTENDENT

When I was hired as superintendent nearly 25 years ago, my green commit-

tee chairman told me the club wanted the greens fast — so fast that when you spit on them, it would roll off. Our greens are well known throughout the state of Colorado as very fast and difficult to putt. As the years rolled on, the membership developed a love/hate relationship with the Press Maxwell-designed greens. About every three or four years, the golf and green committees would talk about rebuilding the same four greens due to the prominent 4-6% slopes. If you were putting from above the hole on any of these greens, you couldn't stop the ball and keep it on the green. The membership eventually approved a putting green renovation project scheduled to begin in the fall of 2003.

My first concern was finding a qualified builder and designer for the project. About a year before the project was approved, my green committee chairman and I made several visits to two other courses in our area with greens under construction to view the putting green construction procedures as they were built. I had worked successfully with Phelps Golf Design Group before on several other projects at our club, and they were hired for this project.

Because we had purchased putting green topdressing material from the same sand company for several years, we utilized their products for our pea gravel and rootzone mix, hoping to match the rootzone of the new greens as closely as possible to the existing greens and still be within the USGA guidelines. The only problem was that they did not want to blend the large quantity of rootzone mix needed for the project and store it at their plant.

My concern was to ensure rootzone consistency among loads. Enough material was ordered to keep a minimum of one green ahead of the builder, and the rootzone material was stored on our parking lot. Each load of rootzone mix was tested for physical characteristics before it was moved to the green site.

Sod seams were the next challenge. Existing turf was cut from the four greens, and this supply was supplemented with nursery turf grown from aeration plugs. The decision to reuse the existing turf was made to preserve playing quality consistency among the new and old greens. The blend of creeping bentgrass and *Poa annua* turf was cut into 18" squares for easier handling. This made for additional rolling and topdressing to smooth out the putting surface once the sod was laid on the new greens.

The putting greens had been topdressed for several decades with the same sand used to build the new greens.

My last challenge was keeping the greens closed until they were ready for play. I was lucky to have strong green and golf committees to help educate the membership about the hazard of opening the greens too soon. As with my other projects, I was concerned that we maintain the integrity of the golf course and at the same time make the new greens more enjoyable to play.

MARK CONDON — GENERAL MANAGER

My role as general manager in the putting green renovation project was to help develop a process to determine our members' opinions related to a putting green renovation project, gauge their support level, build support, and ultimately obtain a "yes" vote. We began the process with survey and focus group methodology. The survey questions asked the members if they supported a putting green renovation project to lessen the severe grade of our greens without changing the design character and integrity. The responses showed that about 70% of the members supported the project, and we communicated these results to the members. The next step was to educate the members and build stronger support. We published a very complete educational piece that answered the most frequently asked questions about the project, such as:

- What is putting green renovation?
- How do you reduce slope and yet maintain the putting green design features and character?
- Why does it matter that we try to increase useable hole locations?
- We are known for our greens. Why would we want to change them?

The formal and informal meetings that followed the publication of our information booklet went a long way in overcoming objections and building support for this project. Our next step was to schedule a membership meeting to make a formal presentation on the project and allow members to ask questions. During the education process we determined that the increase of hole locations on the greens had become our rallying point or concept that members most supported. We then played to this strength. At the town meeting, with the help of our architect, Phelps Golf Design, we *visually* demonstrated, on the actual greens, hole locations before and after renovation. It was amazing what a favorable reaction the members had to these images. They became a key

factor cementing member support for the project.

DAVE WEISS — GREEN COMMITTEE EXPECTATIONS AND RESULTS

Advances in turf management have changed the playing surface of the original Press Maxwell-designed greens at Rolling Hills Country Club. Our green committee wanted to keep the integrity of this design but allow fair play at current standards of green speed. Slopes that were acceptable in the 1960s now produced ball speeds that exceeded fairness. The hole locations gradually became limited to one or two small areas of the putting surfaces. In the case of the four greens to be restored, less than 25% of each green could be used for hole locations. Our board set a goal to improve playing quality and reduce traffic damage from play at these four greens. We were experiencing excessive wear and tear due to limited cupping area, and we wanted to ensure that any restoration done to just four greens would not change the feel of the greens' surfaces as they related to the rest of the course.

Members were very concerned that our reputation for difficult greens would be spoiled by making these four greens too easy. We had an obligation and desire to maintain the "Press Maxwell feel." The board and the green committee wanted to renovate these four greens while preserving our distinctive style.

We have had tremendous acceptance of the project and it has met all of our objectives. The greens are still very difficult, but they are much more interesting and more fun to play. The members are still trying to learn all the subtle breaks. We opened the greens on schedule and within budget, and we were pleased with the work of our contractor, Niebur Golf, and architect Rick Phelps of Phelps Golf Design. They both did a superb job.

RICK PHELPS — GOLF COURSE ARCHITECT

Ever since Rolling Hills Country Club opened at its current location in the late 1960s, this golf course has been well known for its greens. The greens most definitely displayed the "Maxwell rolls" that he and his father made famous at places like Prairie Dunes (Kansas), Southern Hills (Oklahoma), Augusta (Georgia), and many of the private clubs in the Denver area that were built in the 1960s.

As is the case on many courses throughout the country, the push for faster green speeds had rendered some of the greens at Rolling Hills nearly unplayable and definitely a challenge from both a playability and maintainability standpoint. With the reputable and sometimes feared greens as the calling card of this club, the golf course architects at Phelps Golf Design were given a very specific task on this green reconstruction project — on the most severely sloped four greens, add cupping space and restore lost hole locations without losing the overall "Maxwell" character. Kevin Atkinson and Rick Phelps worked together on this project representing Phelps Golf Design.

The direction was provided to the Phelps firm via the board of directors, the green committee, and the general membership. As they worked their way through the planning process, the firm presented the design work in varying formats at numerous meetings with all parties to help everyone gain an understanding of the scope of the work and a comfort level with the planned reconstruction. Although the design firm was already very familiar with Press Maxwell's work, Kevin Atkinson even talked with Hodie Maxwell, Press's widow, to gain as much understanding of his design philosophy as possible.

Once the overall design concept was prepared for each green, the potential construction methods were discussed with the superintendent and the green committee. Since the overall goal was to retain as much similarity to the other greens as possible, the Phelps team agreed that the club could reuse the existing sod from the old greens and simply install it on the newly created USGA profile. The existing greens were predominantly *Poa annua* push-up greens, with at least four inches of accumulated topdressing in the root-zone. The decision was made to cut the sod in a slightly thicker cut (approximately 1.5") to help maintain the grass during construction and to assure a similar playing condition as soon as possible on the new greens.

On average, the existing greens had legitimate cupping space that measured only 25% of the green surface, while the new greens average closer to 60%. The added cupping space also allowed the use of one or two lost hole locations that were originally part of the strategic options on each hole but had been unuseable for many years due to severe slopes and fast green speeds.

The construction period lasted just over six weeks from start to finish and was totally complete by the end of October 2003. It has turned out to be a tremendous success. The new greens were opened for play in early May 2004, and if you were to play the course today, it would be very difficult to tell which four greens were rebuilt. In fact, if it wasn't for the sod used on the collars, which was predominantly Kentucky bluegrass while collars across the rest of the course contain perennial ryegrass and *Poa annua*, you probably could not tell the difference.

NIEBUR GOLF — GOLF COURSE BUILDER

The challenge that Niebur Golf encountered at the Rolling Hills Country Club putting green renovation project was the requirement to maintain continuity with the existing greens. The first step was to save the existing sod so the renovated greens retained consistent playing quality with the existing greens. This required stripping the sod and placing it on plastic while construction of a USGA green ensued.

After coring and hauling off the rootzone material from the existing greens, the hardest part of the construction took place. Niebur Golf had to convert greens with consistent 4%-5% slopes to greens with 1%-2% slopes. This had to be done while maintaining the existing elevations of the original putting green complexes. To accomplish the necessary grade alterations, the backs of the greens were lowered and altered. A large amount of time and detail handwork was spent on the putting green subgrades, including laser leveling, to insure that the final grades and tie-ins would be achieved.

The greens were constructed to USGA guidelines. New drainage, outfall lines, gravel, and rootzone mix were installed to USGA guidelines. One of the trickiest aspects of the construction process occurred as the new putting green grades had to be tied in to existing grades in the surrounds. Great care was taken to insure that grading allowed for a consistent tie-in operation.

Once the surfaces were approved by the architect and the club, the sod was replaced on the greens and the disturbed surrounds were sodded with Kentucky bluegrass.

MATT NELSON — USGA AGRONOMIST

Putting green renovation had been discussed at Rolling Hills Country Club for at least 20 years. By the late 1990s, the project had gained momentum and the club leadership began exploring options to implement the desired changes. Maintaining architectural integrity and consistent playing quality were the primary objectives. By 1999, Green Section Turf Advisory Service reports began discussing the merits of reusing existing sod and augmenting the supply with nursery sod grown from putting green aeration plugs. Since the existing blend of creeping bentgrass and annual bluegrass had performed well agronomically and offered good playability, there was not a valid argument for regrassing all 18 greens.

The new greens were designed to preserve design integrity and character while softening slopes to increase the number of hole locations. They were built to USGA Guidelines for Putting Green Construction.

Saving the existing turf was definitely the best option for maintaining putting quality and shot reception consistency across the golf course.

The construction method was another big decision. Many different construction methods could likely have provided acceptable results, but choosing the USGA method provided the greatest assurance of a successful project. Rebuilding one or a few putting greens at an established golf course can be a risky project, if not a resume update for the staff, and it is definitely the type of project that needs to be done right the first time. It was agreed that the USGA method was the only one with more than 40 years of scientific testing and proven results in the field, and it was the only way to develop clear construction guidelines with respect to materials and methodology for a construction contract that protected all parties involved. The fact that the existing greens had been topdressed for decades with the same sand used to build the new USGA greens alleviated many layering concerns by reusing the existing turf, and it also eased concern about creating changes with respect to playability and management.

The putting green renovation at Rolling Hills Country Club could not have turned out any better. These four greens look and play exactly like the older greens and are built with a superior method that will provide quality indefinitely. Thorough planning, excellent communication throughout the project, the selection of an experienced designer and builder, and a talented, experienced golf course superintendent made this project a great case study for any other golf courses faced with a similar scenario. The renovation at Rolling Hills is hard to beat.

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