



Selective bunker removal reduces bunker maintenance costs and can improve playability and pace of play.

REMOVING BUNKERS CAN REDUCE COSTS AND IMPROVE PLAYABILITY

BY PAUL JACOBS, NORTHEAST REGION

Finding and retaining labor is one of the biggest challenges golf course superintendents face today. As a result, many facilities have been forced to evaluate their golf course and how they maintain it to make sure labor is being utilized in a manner that will provide the greatest positive impact on playability and overall golfer satisfaction. For many courses, a significant number of labor hours are spent maintaining bunkers. This was certainly the case at Totteridge Golf Club in Greensburg, Pennsylvania, which contained approximately 70 bunkers – totaling nearly 4 acres – in the original design.

In addition to the significant cost of maintaining these bunkers, superintendent Brian Fritz was faced with some difficult decisions when the bunkers needed to be renovated after more than 20 years in play. The sand had become contaminated which led to poor playability and drainage. To fit within the budget, the renovation work needed to be performed by in-house staff, but the staff size at Totteridge had been

reduced because of budget cuts and difficulty finding reliable staff. Fritz knew he could handle the renovation work with his staff, but it would take a long time to complete all 70 bunkers. To expedite the renovation process, reduce renovation costs and reduce the resources required to maintain the bunkers for daily play, Totteridge decided to reduce the number of bunkers on the golf course.

Before any construction work began, it was important to identify which bunkers were going to be removed. Playability and aesthetics were taken into consideration during this process. Bunkers that were targeting high-handicap players or ones that received little use were selected for removal. Examples include fairway bunkers that were close to teeing grounds and bunkers behind greens.

The bunker removal process involved removing the sand, stripping sod around the perimeter of the bunker, installing drainage where necessary, regrading and then sodding the area. When grading the area after the sand was removed, Fritz made sure the terrain was level enough to simplify maintenance. For fairway bunkers, this meant making sure the slopes were subtle enough to allow a riding rough mower to traverse the area after the bunker is removed. Reducing the severity of the slopes was also important because golf carts were likely to drive through these areas after the bunker was removed.

The total area of bunkers was reduced by approximately 50%, and labor requirements for bunker maintenance were reduced by about the same amount. Examples of reductions in labor requirements for regular maintenance are outlined below:

- Regular raking time was reduced from eight to ten labor hours per day to four or five labor hours.
- The time spent pumping bunkers and repairing washouts after a storm was reduced from 24-40 labor hours to 12-20 hours.

By reducing the number of bunkers on the golf course, resources were reallocated to other areas like putting greens, tees and fairways. Additionally, the cost to renovate the bunkers was nearly cut in half. While there is a cost to remove a bunker, it is significantly less than the cost of fully renovating a bunker and the long-term maintenance costs of that area are much lower. To put the renovation cost savings into perspective, consider the following:

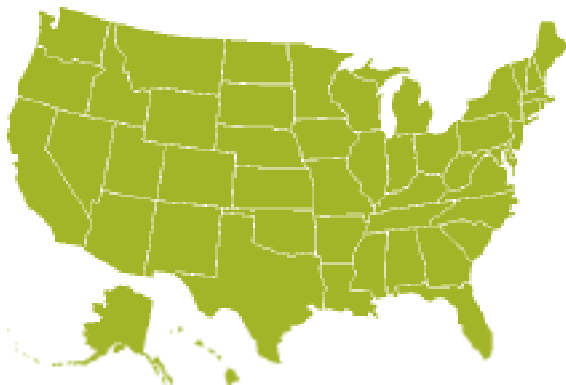
- Originally there were approximately 4 acres of bunkers. Assuming an average sand depth of 4 inches, the bunkers contained about 3,000 tons of sand. The cost of bunker sand varies, but assuming \$50 per ton, sand for the renovation would cost \$150,000. By reducing the total area of bunkers to about 2 acres, there is a savings of \$75,000 on sand alone at the same price.



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Bunker removal not only had a positive impact on the maintenance operation, but also the golf experience. Overall, golfers at Totteridge have been complimentary of the changes. Removing bunkers that were impacting high-handicap players has resulted in a more enjoyable experience while still maintaining a challenging and aesthetically pleasing golf course.



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