# Putting Green Complex

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MAINTENANCE OF today's putting green involves more than just the putting surface; it includes the collar, the approach, and the surrounding rough areas. Bunkers are not included since, by Definition 14, they are separate areas. Each of these areas requires separate maintenance, and yet each one is dependent upon the other.

### The Collar and Approach

In 1974, the USGA Green Section, in its soil specifications for putting green construction, recommended that collar soil and putting green soil be similar. By inclusion, the collar was recognized as an important part of the putting green area and, as such, should receive the same careful preparation during construction and subsequent maintenance.

This is not to say that collars on greens not built to USGA specifications should receive less care and maintenance than the putting green. On the contrary, collars actually can determine to some degree the maintenance practices planned for the putting green themselves . . . especially water management.

There is no formal definition of a collar in the Rules of Golf. Areas not defined are simply termed, "Through the Green." In common usage, collars are generally considered to be approximately a three-foot-wide area of turfgrass, mowed at an intermediate height between the putting green and fairway. However, as Figures 1 and 2 indicate, collar widths vary. Some clubs prefer broad collars, as shown in Figure 2, while others maintain them relatively narrow, as in Figure 1. The choice is the club's and is usually determined by the equipment available to maintain these areas economically, the design of the green, and the distance the bunkers are situated away from the putting surface.

In the preparation of courses for USGA championships, the collars are 36 inches or less in width. Formidable rough is usually adjacent to the collar so that only well-played shots to each green are rewarded.

### The Collar and the Rough

For most golf courses, a 4- to 5-inch rough immediately adjacent to the collar for regular membership play is too severe. There are compromises in the grass cutting heights for championships and regular play. Some turf managers and club officials believe that collars should be wide in order to ease and speed play. It is possible that just the opposite is true. For example, when a ball rolls over a wide-collared green, as in Figure 2, the ball will tend to continue to roll a greater distance from the putting green surface. Contrast this to the same shot rolling over the green onto a narrow collar (Figure 1) and stopping much more quickly in a normal rough area near the putting surface. The golfer whose ball rolled over the wide collar faces a longer chip shot. The golfer closer to the green should have a better opportunity to play his next shot close to the hole. This could mean fewer strokes and, potentially, speedier play.

Narrow collars with more rough around the green also can be better for the grass and easier and more economical to maintain for the golf course superintendent. It simply stands to reason that grass maintained as rough around the green has:

1. Better resistance to wilting.
2. Better resistance to traffic.
3. Better resistance to weed infestation.
4. Less disease and thus less chemical usage.
5. Better overall vigor and competition against *Poa annua*, especially in the cool season grass-growing regions where there is constant competition between Kentucky bluegrass and annual bluegrass. On the collar area, *Poa annua* is much more competitive than Kentucky bluegrasses, and it tends to dominate. Usually only bentgrasses or perennial ryegrasses compete with the annual bluegrasses in the northern cool season turfgrass areas on collars. By narrowing the collar, the Kentucky bluegrasses will tend to dominate the annual bluegrass in closer proximity to the green. The result is grass that is better, stronger and easier to maintain.

*Typical Open Championship course set-up. Note penalizing rough just off narrow collar swath of 3 feet. A view of No. 18 at Inverness.*

*Figure 1.*

It follows that relatively narrow collars with well-maintained rough areas are good for the game and good for the maintenance of the golf course.

### Collar Maintenance

Collars are difficult areas to maintain. In many cases, soils under collars are of a finer texture, containing more silt and clay than the greens mixture. In new construction, collars have often been considered not as important as the putting green itself; therefore, they received less attention in the attempt to save money during construction. In our refined specifications for putting green construction, the USGA Green Section has attempted to correct this notion by recommending that collars be constructed exactly the same as the putting green itself.

This is fine for new construction, but many greens, especially on older golf courses, have not been constructed in this manner. This can be an important factor on older greens which have been enlarged onto soil areas that were intended originally to be collar. Enlarging greens in this manner was fairly common because of demands of ever-increasing play on small greens. As a result, unmodified soils which were never intended for anything but collars now have become part of the green. This makes putting green and collar maintenance even more difficult.

This all means that the collars on courses with heavier clay-silt soils tend to hold water so tenaciously that very little is available to the grass's roots. Figure 4 illustrates what can occur. The turf on the green is in excellent condition, but the collars have thoroughly wilted out. This situation is a particular problem in areas of the country where collars containing heavy soil, are compacted, and contain such high percentages of annual bluegrass that, as the photograph shows, they can die quickly. The result is not good in terms of appearance, maintenance or playability.

Collars *must* receive the same, if not more, careful treatment than the putting green. These areas must receive a high level of aeration, topdressing, vertical mowing, spiking, seeding, fertilization, pesticide applications and irrigation. It is a false economy to defer such work to save time and materials. Collars are heavy wear areas that must withstand traffic. Collars are recognized by turf managers as very important to the overall appearance and playability of the golf course. They are an integral part of that critical playing area on and around the putting green.

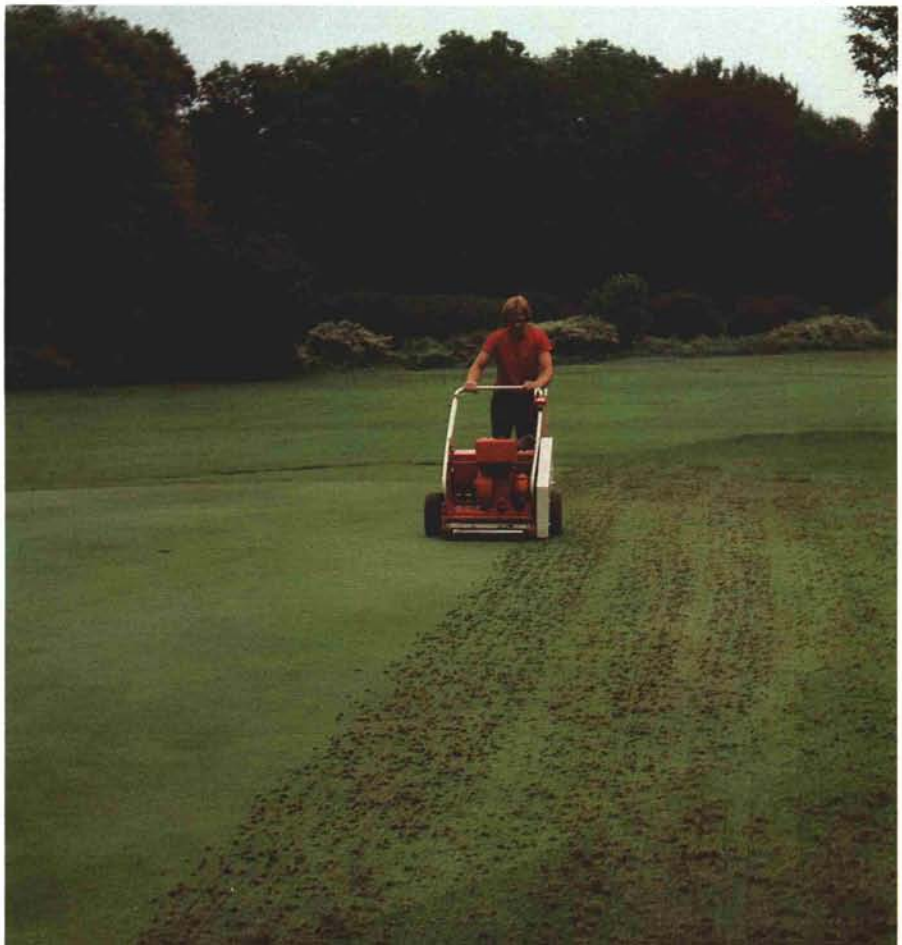
### Collar Improvement Through Renovation

Figures 5 and 6 illustrate one of several approaches to collar improvement. The area is:

1. Stripped and the soil is worked up and modified (if necessary).

Figure 2.

Figure 3.



*(Above) By contrast, note wide collar used for the 1979 Masters. The 4th hole at Augusta National Golf Club.*

*(Left) Total maintenance dictates that collars receive almost exactly the treatments prescribed for greens.*

2. The area, in this case, has been reseeded; however, other options are to sod or sprig.

3. Thereafter, the area is carefully irrigated and nurtured so that it develops into the type of turf desired.

Collar renovation is undertaken for several reasons: to smooth contours, to modify soils to better withstand the stresses of high traffic, to introduce new and stronger grasses, and to eliminate sand buildup areas near bunkers for improvement aesthetically and from the standpoint of maintenance.

**How Does the Collar Affect the Management of the Putting Green?**

How often have you seen the entire putting green watered when only the collars needed water? This is especially true today because of the ease with

which water can be applied with automatic irrigation. This is not meant to condemn automatic irrigation; it is merely to state that, because of the ease with which water can be applied, it is very easy to overwater. The following problems result from overirrigation.

More soil compaction.
A shallower, weaker root system.
Generally weaker, more succulent turfgrass cover.
More traffic injury.
More disease.
Increased weed infestation, including *Poa annua.*
Soft, soggy turf.

If there is one area where labor can be used wisely, it is in hand watering greens and collars. Unless collars have the exact same soil mixture as the putting green, the water requirements for each will differ. Also, on high spots or areas where sand accumulates, such areas tend to dry and require more water, while low spots tend to be wetter and need much less water. Further, because the usual perimeter irrigation system design will concentrate water in the overlap areas in the center of the greens, collars generally receive less water during irrigation even though they may need it more. There is no irrigation system today that offers a perfect water distribution pattern over the entire putting green and collar area. It is a practical impossibility unless they are hand watered.

Therefore, when deciding on how much water to apply, one must be careful to irrigate the drier areas, giving them adequate water without overwatering the low areas. So long as surface contours are good and internal soil drainage is excellent, there is less likelihood of problems, compared to the more common situations where the soil is heavy, slow-draining and surface contours have pockets. In cases like this, the result is weaker turf, more disease, more weeds and generally a deterioration of the turf quality in low, wet areas. Is there a way out?

It is understandable that more and more golf course superintendents who have this problem are watering collars and greens by hand, not with their automatic system — especially during the heat of the summer. The goal is to apply the right amount of water to that area of the green and collar that needs it the most *without* overwatering the entire putting green. When a hand-watering program is followed, significantly less water is used, and the turf areas tend to be in better overall condition throughout the season.

One useful key in determining correct soil moisture as it relates to a properly maintained green is the type of ball mark made. Deep pits mean a wet, soft green and shallow bruises that don't leave much of a mark are an indication

*(Left to right) Collar improvement extends far beyond eventual collar cut. Old Orchard Golf Club, Eatontown, N.J.*

*Figure 4.*

*Figure 5.*

of the firmer turf we all should be striving for. Putting greens are for putting; they are not meant to be soft, wet landing areas. A golf ball is not entitled to hold the putting surface simply because it hits there. The skill of the golfer should determine whether the ball holds a properly firm green. The putting green should *never* be irrigated for the purpose of softening it for the convenience of players.

The most interesting compromise is where the existing automatic irrigation system has been modified for better water control on collar and approach areas. Because of the different water requirements of green vs. collar, a supplemental pop-up perimeter irrigation system using low-volume and short-throw sprinkler heads is programmed to water only the collar, approaches, and near rough areas without watering the putting green itself. The goal is to avoid overirrigating the greens with the regular sprinkler heads when only the collars need the water and hand labor is not available to do the job.

**Conclusion**

In summary, even though collars are not defined in the Rules of Golf, approaches and near rough areas around putting greens are an integral part of the area of maintenance and the play of the game. Each area is distinctly different, ranging from narrow to wide grass areas, low to high cut on loose to heavy-fine textured soils. Each grass and soil area is managed somewhat differently, and each is dependent upon the other.

The careful turf manager recognizes that these areas are distinctly different in maintenance and management requirements. This is the challenge that faces the contemporary golf course turfgrass manager.

## New Green Section Staff Member

Patrick Michael O'Brien joined the Green Section Staff in May. He received a B.S. degree in biology from Marietta College, Marietta, Ohio, and an M.S. degree in agronomy from the University of West Virginia, Morgantown, W. Va. O'Brien was born in Pittsburgh. He has worked at the Lakeview Inn and Country Club, Morgantown, West Virginia. With the Green Section he will work under the direction of William G. Buchanan, Mid-Atlantic Director.

*Figure 6.*