



Constructing A Golf Green

GOLF course construction is a topic of great interest to members of our profession and many regard it as the most satisfying aspect in the wide-ranging skills of a golf greenkeeper. Surely, the greatest challenge any greenkeeper can undertake is the successful construction of a golf green?

Before embarking on this task, there is much to be learned from the existing condition of greens and tees. Many times we see hard-packed, thin turf in these areas, caused by heavy traffic and a lack of alternative routes from a green to the next tee.

Proper design can iron out such problems before they arise. Bunkering around greens should also be considered and, in some cases, it is better not to clutter the tee side of your green with bunkers, as this again concentrates wear around bunker edges and creates maintenance problems.

Proximity of bunkers to the green is another point. There should be enough room for machinery to pass between green and bunker. Greenside bunkers are an obvious problem and sand-splashed areas can cause local drought problems even on the wettest greens.

The new green itself must blend into the existing landscape and contours should be reflected in the green. The objectives must be to create a landscape that is aesthetically pleasing and inspiring to the golfer. There is nothing worse than the boring flat greens we see created not by a lack of finance, but lack of imagination and flair merely to please poorer golfers.

Think of St Andrews and other great links. The vogue years ago was to construct using a back to front slope, which has the effect of making a ball pull up quicker on a firm green in dry weather. I would even suggest some greens when kept in a firm condition are

unsuitable for play because of initial design. Design is important and careful thought at this stage will influence the quality in years to come.

Construction of the green is best attempted by a system of pre-planned stages. First, a rough plan should be drawn up, detailing shape of green, hazards, drainage, potential problem areas, etc. This allows the committee to see your proposals and is necessary for reference throughout construction.

A cost estimate will also be required. This should include hire of a turfcutter, digger, trencher, sand, soil, drainage, time and labour and should be presented to the committee for approval.

It is very important that the greenkeeper keep a copy of all information given to the committee. This may help thwart members who would have you deviate from your plans.

The site I intend elaborating on has a slight slope facing the original fairway. The first step is to mark out the greensite. This is best accomplished by using an engineer's chain (100 feet in length) and measuring the new hole from the back of the tee (two club lengths) through the centre line of the new fairway to the back of the greensite.

If marker posts are placed at a 100 feet centres through the centre lines, it is obvious the centre line of the fairway is the same as the greensite. The shape of the green can then be outlined geometrically either side of the fairway centre line.

This may seem a lot of trouble to go to, but alignment is important and, if used, this method ensures the green is facing the right direction. If mistakes are made at this stage, they will be reflected throughout the construction.

Next step is to remove the existing vegetation from the site. Turf can be lifted and laid aside for turfing bankings and approaches, but if vegetation is undesirable, it is better to spray using a powerful, total weedkiller to clear the site.

Now to mark the green's shape. As stated earlier, using the centre line marker posts, the shape can be marked geometrically either side of the line using white marking compound. Some green-

keepers prefer to use a shallow trench.

Digging out the site involves using excavation equipment, which can either be hired in the form of a Hymac or JCB or, as in my case, a Back Acter digger.

In many situations, the excavated soil can be quite safely mixed with sand and used in the top mix for the green. In my case, where the soil has a very high clay content, this was unadvisable and we used the dug out soil to ring the green for banks and to outline bunkers.

When the greensite is dug out, the next step is to install drains to the green. Herringbone or grid patterns can be used, but I think the herringbone system is probably more versatile and can be used on most sites.

It is important that the whole green is covered by the drains. If a herringbone system is used, the main drain should follow through the centre of the greensite with laterals spaced at 4 to 5 yards alternately along its length.

The drains should be dug approximately six inches into the soil of the excavated site. This is best done manually. Perforated plastic pipe of 60mm to 80mm is best for the job and special plastic Y junctions should be used to connect laterals to the main. The drains should then be covered to soil level using gravel.

A couple of wet days usually helps to prove the system and any error can be corrected at this stage.

Now it is time to peg out the greens. The top of the pegs should indicate the intended surface contour of your green. Commercial contractors use a theodolite for this purpose. However, greenkeepers traditionally use a spirit level and board. The end result is the same.

When pegs are set to desired levels, it can be useful to paint the top nine inches representing the top mix. This, in turn, gives a good guide for sub-grade drainage carpet levels, which should reflect the intended green surface.

When hauling tons of gravel, it is essential to have a good road into the site. Some greenkeepers use old railway sleepers for this purpose and it is well worth spending a few days getting it right as



Kent

By the time you read this, you will already know about the cancellation of our autumn golf meeting at Cobtree Manor Park on September 9 and its transfer to West Malling on September 29. We apologise for this. It was due to circumstances out of our control.

The Kent seminar will take place on October 15 at Broome Park Golf and Country Club. Speakers include Nick Park, Martin Hawtree, Wing Cmdr W. McCrea, Jack McMillan and Chris Mardon.

As reported fully last month, the Course Management Trophy was held at Hankley Common recently. The event is for club teams of three, consisting of the head greenkeeper/course manager, secretary and green committee chairman. Congratulations to the West Malling team of Mike Ellis, secretary, Ernie Thompson, green committee chairman, and our own Chris Mardon. Well done you Kentish men!

John Atkins.

East Anglia

The Cambridge Hotel in August was a good place to be. Eddie Spittlehouse and the boys had knocked it into good shape and the hospitality was of a high standard, even though some of the golf wasn't!

Some, however, did almost excel. Steve Freestone scored 40 points and P. Howard 39 in the 0-17 section, followed by S. Painter 38 points and Mick Lathrope 35 points (straight up, no fix, honest!).

First guest was M. Crack 45 points (net 63) - there's always one! Second guest - on 42 - was D. Fox. First lady was Mrs Bawden with 42 points. Lucky Eddie won the booby prize.

Not much happening up here - the grass keeps growing, we keep cutting it. We're told the rough's too long, greens too slow, holes are in the wrong place, we get asked why we can't cut the fairways at night and why did the wheel fall off somebody's trolley. You know, quite the normal, routine stuff!

Well, that's it folks. Must catch my stage coach...

M. Lathrope.

North-West

The autumn golf tournament was held in glorious sunshine at Mold Golf Club. The branch committee would like to thank the Churchview Garage, Wrexham Lancia agents, for its sponsorship.

Also, many thanks to Arnold Cox of Rigby Taylor, Phil Davies of Joseph Metcalf and Walter Briggs of SISIS for donating excellent prizes.

It was agreed the course was in top condition and the greens were some of the best played for a long time.

Thanks to the greenstaff for all their hard work and congratulations to Teg Morris and staff for the superb condition of the course.

A most enjoyable evening meal was followed by the prizegiving. Our thanks go to Ray and Elsie Sheldon for the bar and meal.

Prize winners were: members - Paul Massey (Helsby) net 67, guests - Rob Jones (Wrexham) net 68.

EIGGA representative Bill Lawson recently attended a two-day meeting of the GTC at Askham Bryam College, York. A range of subjects was discussed, details of which will be published in *Greenkeeper*.

Guy Cannings.

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this will effectively keep the vicinity of the site free from disturbance by tractors, etc.

The type of gravel can be controversial and it is prudent to visit as many quarries as possible and compare costs. A good $\frac{3}{4}$ inch stone is ideal but, on some courses, natural subgrade can be used effectively. Broken pantiles and rubble are successful also. When buying, it is best to purchase a spherical stone. In our case, we used 250 tonnes, so it is evident costing is paramount.

When sand only is used in the rootzone, it is important to use a blinding layer of coarse sand or vermiculite clay. This prevents fine sand particles filtering into the drainage carpet. In fact, in a sand-only green, USGA specifications must be adhered to.

However, in a sand soil mix, I do not feel it necessary to use a blinding layer, as soil tends to bind the sand and hold the mixture fast and, in this case, a blinding layer would only restrict drainage, which is not what is wanted. The top mix is important, for it ultimately dictates the nature of the green.

Nowadays, we could be forgiven for thinking sand only is the only way. It is not. When constructing, a main criteria is that the new green be typical of others on the course. How can we accomplish this by building a sand-only green on a clay course?

Instead, we must use our skill to emulate our other greens, which may not be easy. I have seen many successful greens built using soil only. This was the skill of an older generation, who built surface drainage into their con-

struction. In our new green, we use 200 tonnes of sand and soil, mixed and shredded by the quarry. Again, a good price is required. However, this should not effect quality.

The best sand is described as medium fine and should meet Bingley's requirements. Most quarries will give you a detailed analysis of their product when requested. It is necessary to be aware of what you are using.

The soil should be laid over the drainage carpet and compacted, using your feet, to a depth of some 9in. This should only be done in dry weather and the soil should be tramped, raked and levelled as much as is required to gain a fine even tilth ready for turfing.

Alexander W. Blacklaw, Course Manager, Crow Wood Golf Club.