



## Kingsknowe Golf Club, Scotland

### A step back in time – Re-creating the Original ‘Principal’s Nose’ Bunker Design Concept

#### The Challenge

Retaining an original bunker design concept was recently publically highlighted with the renovation and recreation of the original ‘Road Hole’ bunker specification on the 17<sup>th</sup> hole at the Old Course in St. Andrews. There was much public debate about the merits of this reconstruction plan, however, bunkers at many courses designed upwards of a century ago have changed significantly both in shape and in character over their lifespans. Bunkers are affected by natural erosion, by players clambering in and out of them and continuous play over time producing significant levels of bunker splash that creates both added height to the front face of the bunker and the evolution of additional slopes and banks running down from the bunker, into the edges of many greens, in turn altering the green contouring.

This had been the case at Kingsknowe GC in Edinburgh where the evolved bunker characteristics were now very different from those in Alec Herd’s original course design. Significantly, there have also been increasing course management issues, with the bunkers:

- being prone to flooding
- having compacted sand drawn into the underlying drainage systems
- being challenged by the ingress of stones and weeds
- being prone to crumbling faces
- being criticised in feedback from golfers suggesting that the bunkers are “poor”, “unfair” and simply “unpleasant to play from”



#### The Solutions

- As Kingsknowe GC were already in the process of reconstructing all their greens to a USGA Specification, it was agreed to take the opportunity to also re-construct the greenside bunkers at the same time – recreating the original principals nose characteristic that Kingsknowe GC was historically renowned for.
- Adopting the use of the ‘Sandmat’ base layer for re-construction – an intuitive material that retains the bunker sand within the hazard, whilst allowing the water to flow through to the underlying drainage.
- Following a process of scraping out the bases of each bunker, laying replacement drains - which link into the greens drainage system, laying down a grit layer, the ‘Sandmat’ base liners were then inserted, pegging this down and tucking it into the perimeter turf. Finally 100 mm of sand compacted in 50 mm bands was inserted with 13-18 mm of loose, fluffed up sand on top.
- Adopting an immediate standard maintenance policy for these newly created bunkers – there was no longer any requirement for deep raking, just a topping up of the sand as and when required.

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## The Outcomes

### ***Golfing Benefits***

- Consistency of bunkers across the golf course, filled with quality sand, all maintained to the same standard.
- Bunkers no longer flooding and creating stagnating puddles, enhancing golfer's enjoyment.
- Original 'Principal's Nose' bunker designs have been re-created on holes where green re-construction has taken place.
- Significant reduction in golfer complaints and associated increase in golfer compliments.

### ***Economic Benefits***

- Re-constructed bunkers easier to maintain for the greenstaff, offering time savings in on-going bunker maintenance.
- Reduced volumes of sand required, offering cost savings.

### ***Environmental Benefits***

- Reduction in volumes of sand, increasingly a scarce resource, required for annual bunker maintenance programmes.
- 'Sandmat' base layers allowing natural percolation of water through to underlying bunker drainage systems avoiding dormant, stagnating puddles forming.



### **Success Criteria**

- Re-constructed bunkers no longer flooding
- All bunkers are consistent across the golf course, enhancing the golfers enjoyment
- Reduced on-going maintenance effort for the greenstaff, with resultant time savings
- Less sand required to maintain and top up bunkers, offering cost savings

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## What Next?

- With the club committed to re-constructing the remaining 7 traditional greens to a USGA recommended method of construction, the greenside bunkers will also be re-constructed at these greens at the same time
- Maintaining the consistency of the re-constructed bunkers – using irrigation system where necessary during drought periods to dampen down the sand, with the newly constructed drainage systems ensuring compaction is no longer an issue in the bunkers during wetter periods
- Maintain newly constructed bunkers with at least 100 mm of compacted sand and 13-18 mm of looser sand on top to ensure consistency across the golf course, topping up sand wherever necessary, thereby enhancing the golfing experience
- Review the quality of the sand, fast becoming an issue for golf courses and their greenkeeping staff given the increasing scarcity of supplies – ensuring compaction qualities, susceptibility to wind erosion, the playing experience and lastly and perhaps most importantly it's cost and availability can be maintained for the enjoyment of members and visitors alike