

Clean and consistent lake edges

Richard Allen explains how a new lake edging process is helping to maintain natural habitats and enhance player safety out on the course



“Installation work is very fast and involves minimal disruption when compared with more traditional retaining solutions”

At EcoBunker, our primary focus has historically been on bunker edges – that troublesome zone where sand meets grass. Our solution is to stack layers of artificial grass tiles to form a synthetic, low maintenance, natural looking ‘buffer’ between sand and grass.

As many engaged in golf course maintenance will know, the margin where water meets grass is also a problem. Our response is AquaEdge – a ‘buffer’ which is also a retaining wall comprised of horizontal layers of sand filled synthetic grass.

The engineering factors and constraints of water margins are more complex than golf bunkers. Things to consider include foundation design, hydraulic loading, flow velocity, erosion potential, imposed loads, construction and environmental hazards, and health and safety issues.

AquaEdge is a civil engineering process which includes an initial investigation, design and specification work, planning, the supply of the various components and installation.



With the AquaEdge lake liner, as seen here on the sixth hole at Queenwood, a debate around whether a ball is in or out of a hazard is no longer necessary

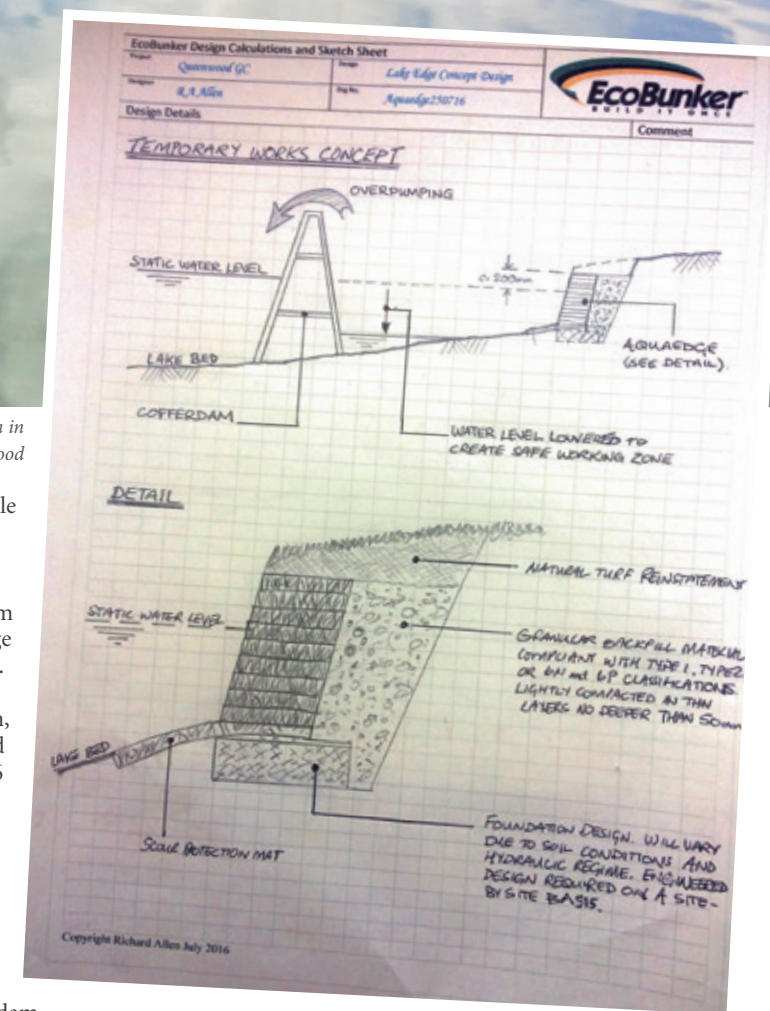
Why the need for AquaEdge? Firstly, natural water margins are important ecological habitats. Unmanaged, these shallow areas support emergent vegetation, which in turn provides cover for threatened species, such as amphibians and water voles. However, when these areas impinge close to areas of play on golf courses, problems arise. Banks can erode and adjacent high footfall areas can become slippery and dangerous for golfers and maintenance staff.

Secondly, access is difficult for maintenance, and as a result these areas often become muddy and unsightly. There’s also the rules issue. It can often be difficult to determine what is in or out of a hazard. Contentious golfing rulings often result in dozens of red and yellow stakes, which in my opinion are very unattractive.

AquaEdge offers the opportunity to have consistent and cleanly defined water margins, close to areas in play, that look entirely natural. The installation work is very fast and involves minimal disruption when compared with more traditional retaining



Richard Allen’s plans for the lake liner and be seen in practice here on the fifth hole at Queenwood



solutions. The maintenance of these areas is considerably reduced, and the debate of whether a ball is on or out of a hazard becomes a thing of the past.

The prestigious Queenwood GC in Surrey, England, was the first golf club to recognise the potential for using stacked synthetic sod as a lake edging. I had wanted to apply my invention to this use for several years, but with my focus very much on golf bunkers, the opportunity didn’t arise despite a few overtures elsewhere. It was therefore a great thrill when Queenwood invited me down, and I am very grateful for their support.

The design brief was to provide 150 metres of lake edging, in our synthetic retvetted style, and extending on average 200mm above the permanent water level. This might sound simple, but the lake water level could not be lowered, the available time window was very short and no heavy construction machinery was permitted.

This presented a new challenge, but we were granted the opportunity of a small-scale trial installation. We were able to gain a vital understanding of the lake bed profile, ground conditions and build speed. As a result, I decided that the working area had to be de-watered, and selected a

specialist demountable cofferdam with over-pumping – one of only two in the UK. This enabled our team to build the AquaEdge wall in three sections.

Following a successful installation, EcoBunker was called back in October 2016 to build another lake edge of a similar scale, this time on the tenth hole.

Queenwood has given us very positive feedback, and the managing director of the cofferdam provider was even more encouraging. He said: “In my opinion, for a low water edge solution, AquaEdge is the best process that we have seen. It is much faster and less labour intensive than all other methods, plus the end aesthetics are stunning.”

Though our focus at EcoBunker has been on our bunkering products, we are set to make more of an effort to promote the AquaEdge process. Moving forward, at Cabo

San Lucas in Mexico we will be building the edge of the island green using the same approach we used at Queenwood. These two very high-profile projects will be a great help to our marketing of AquaEdge. **GCA**

Richard Allen is CEO of EcoBunker and is a civil engineer and inventor by profession