



Sustainable Drainage and Pond Creation: Haddington Golf Club

INTRODUCTION: Haddington Golf Club is a parkland course situated near the historic town of Haddington in East Lothian approx. 20 miles from Edinburgh. It was opened in 1865 and provides a 6384 yard course within walled surroundings.

THE ISSUE

For a number of years Haddington Golf Course in East Lothian was suffering from increasing problems from excess surface water and flooding. This was caused by increased rainfall, rising groundwater levels, increased frequency of flooding from the River Tyne and increased amounts of surface and sub surface runoff from the large sloping catchment in which the course sits. The entire lower section of the course was experiencing a considerable amount of waterlogging, dependent on an old agricultural drainage system with only one outlet. At the times when the club needed the outlet to be free, it was usually submerged by high river levels and the piped drainage system would not rapidly alleviate flood waters. These problems were seriously disrupting member and visitor access and enjoyment of the course so to improve playability, the Club had to think carefully to find the most effective solution.

THE SOLUTION

The most cost effective solution came in the form of a sustainable drainage (SuDS) ponds, wetlands and ditches. Three ponds were constructed with shallow margins, gently sloping edges, deeper pools and connected via open ditches and emergency spillways (to increase carrying capacity during serious flood events). The ponds and wetlands would create localised catchments for floodwater and runoff by changing the topography of the course. The adjacent playing areas would now have a series of local outlets into which fairway pipework could be directed. The ponds were located at the foot of the catchment slope and thereby intercepted virtually all water which would otherwise have found its way down onto the lower lying, riverside holes.

AT A GLANCE....

>> In 2000, Haddington Golf club appointed a hydrologist (Water Gems) to investigate a sustainable drainage solution to the ongoing drainage problems on the course.

>> This was followed by the construction of three attenuation ponds and wetlands on a flood plain, to alleviate flooding of the golf course and create golfing hazards.

>> The new pond habitat has huge biodiversity improvements in line with the East Lothian Biodiversity Action Plan. In particular the habitat is ideal for conservation of the declining water vole.



Spoil from the ponds was deposited in adjacent low lying depressions, thus enabling runoff from, rather than onto, playing areas.

Marginal plants were purchased from the Jupiter Gardens, the Scottish Wildlife Trust's (www.swt.org.uk) nursery in Grangemouth. Students from Oatridge Agricultural College (www.oatridge.ac.uk) assisted with the planting.

The project cost supplemented by grants from Scottish Natural Heritage (SNH) via SGEN and the Local Biodiversity Action Plan Implementation Fund.

OUTCOMES

The prime objective was to improve drainage of the course, but there were many other positive outcomes and opportunities that arose from the project:

- Sustainable Drainage Solution; improved playability and member satisfaction.
- Increased golfing challenge in certain holes through the creation of new water hazards.
- Enhanced overall landscape character of the parkland, adding to the golfing experience. The ponds and wetlands will be a major attraction to visiting golfers in the future.
- Improved wildlife and habitat interest of the course which had a major part to play in attracting funding to the scheme. The three ponds and associated wetland areas account for one of the largest pond creation schemes in East Lothian for many years. They are designed to provide the maximum habitat diversity and are bordered by considerable areas of rough out of play vegetation. The ponds have a generic conservation value. Moorhen, coot, mallard, mute swans and a number of other species of wildfowl are already colonising them. Frogs, toads and palmate newts are present, along with a tremendous diversity of aquatic plant and invertebrate life. Damselflies are now breeding well and it is hoped numbers of various species of dragonfly will also increase. The key ecological objective was the conservation of the rapidly declining water vole. The reedbeds and ditches will provide an ideal habitat as the ponds mature. It is also hoped that otter will come into the course from the river.



Area of frequent flooding



During construction



Post construction

FIND OUT MORE

If your club would like to promote its business success story or require support in this area, please contact your Club Development Officer or Environment Manager Carolyn Hedley c.hedley@scottishgolf.org

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