Small scale drainage projects need not be costly

This month James de Haviland looks at 'DIY' drainage solutions...

If water is collecting in areas that were once free draining, the first job is to find out why. Digging a small hole with a spade or taking a core sample can help identify if there is a compaction layer and its depth. Regular spike tests can also help spot when a compaction problem is building. Deep aeration may cure the problem.

In other cases, an existing primary drainage system may not be functioning as well as it could. Blocked, collapsed and silted up main drains obviously will not work as well as they should and will struggle in a really wet period. If these drains feed into open ditches, it also follows that water needs to be able to get away.

With the basics in place, supplementing an existing system with additional drainage to cope with localised problems need not be difficult or too costly. This can be done by installing a slit or trench backfilled with sand, gravel or purpose developed material such as Lytag. Or a new run of drainage pipe can be installed and linked to an existing pipe.

Tools that can be used to create backfilled drainage slits include the AFT Sandbander that comprises a 1.0 cubic metre stainless steel hopper and hydraulically powered vibrating single filling blade. It can create a 25mm wide slit to a depth of 250mm.

The Shelton Gravel Band Drainer will again produce a slit, which can be 6 or 25mm wide, and will deposit a band of kiln dried sand, gravel or Lytag at depths adjustable between 100mm to 350mm.

For either type of blade slitter to work effectively, ground conditions need to be just right; too wet and there is a risk of damaging the turf and smearing the soil. In soils with high clay content side smear can lead to 'lateral' compaction along the sides of the slit. If the soil is too dry, the slits can be difficult to produce cleanly and the ground may be too hard for the blade to ease through the soil.

'Microband' drainage using sand, gravel or other infill medium will typically comprise slits of between 250 to 300mm in depth, with spacing at 400, 600 or 800mm centres. Buying a system may cost upwards of £9,000, but hiring in the equipment on its own or with an operator experienced in doing the job is another option. With support from club staff, hiring in a slitter and operator for several greens could see a costs average out at as little as £650 per green.

Taking powered slitters one step further, Shelton and AFT also offer larger trenching units. Trenching machines can do a great deal more than produce a 'slot' into which a drainage medium can be backfilled. They can be used to lay drainage or irrigation pipe as well as be used to install underground services including water and electric cables.

Although it is tempting to compare this type of kit with 'microband' drainage tools, the way in which trenchers can be used is different. For a start, a chain trencher such as the AFT 45 can produce an opening that ranges in width from 40 to 200mm and can be up to 1.20m deep. There are also pedestrian powered chain trenchers available. These include machines from Barreto, Vermeer and Ditch Witch.

Small project work

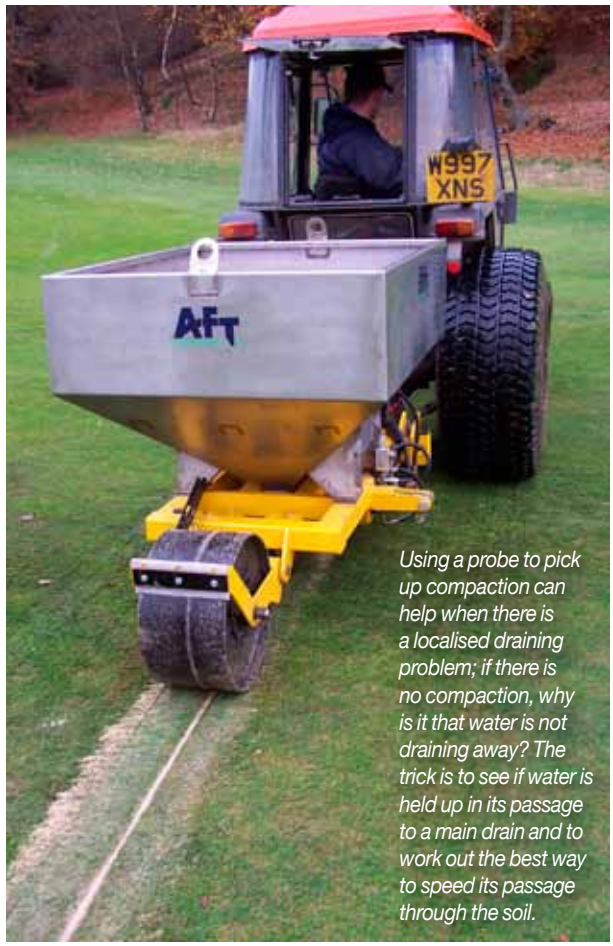
It follows that you do not need to use a trencher to dig a trench; short runs can be dug by hand and need not be as onerous as you think. It follows that some simple planning will also help.

• Keep backfill dry. Removed soil needs to be kept dry and should be sheeted if left in a heap that is likely to be rained on

• Use a turf cutter. This will help speed reinstatement as well as provide a clear indication of the trench direction and size. You can hire in a suitable 'sod cutter', with entry level machines that will help cut a turf slice costing from around £1,500

• Use boards and planks. When working on greens and tees, boards and planks can help protect the playing surface

• Tyres and compaction. If possible, reduce the inflation pressure of equipment tyres to the permitted minimum. With trailers and turf trucks, avoid overloading



Using a probe to pick up compaction can help when there is a localised draining problem; if there is no compaction, why is it that water is not draining away? The trick is to see if water is held up in its passage to a main drain and to work out the best way to speed its passage through the soil.

• Timing. Try to plan small drainage jobs so they can be completed in as short a time frame as possible

• Plan supplies. When ordering drainage project supplies, seek advice to source the most appropriate materials

LEFT: Slit trenchers come in a variety of designs and can be used to apply a band of material from the turf surface down to the water table. Operated correctly, these tools can help improve local drainage issues economically, but sound primary draining is also important. On larger jobs it pays to work with a drainage specialist.

RIGHT: When carrying out 'small' drainage projects, planning ahead will help get the job completed, even when the trenching tool is a spade! Clearing turf with a 'sod cutter' helps and can make restoration considerably easier. Pictured is the start of the drainage work carried out by Matt Le Brun at the Rasomes Jacobsen course at the company's Ipswich base last year.

Turfdry remedies waterlogged golf greens

Rob George, Head Greenkeeper at the scenic Thorndon Park GC in Essex has been most complimentary about the Turfdry Drainage System:

"For some time we had some drainage issues on seven greens. The problems were highlighted more over the wet winter months and after much deliberation it was decided to do something to ensure golfers could enjoy the beauty of Thorndon Park Golf Club all year round.

The Turfdry system was presented well, the materials used are of excellent quality and the entire package is delivered very professionally.

The club decided to do a trial green first which just happened to be our chipping green which is right outside the club house and in full view of everyone, so the pressure was on to not only ensure the job ran smoothly but the system worked as well.

True to form and word the Turfdry installation and system has worked perfectly. Comparing this green to the remaining problem greens, the chipping green is miles ahead. It has certainly been put to the test this summer with copious amounts of rain being thrown at it and the new drainage system has performed superbly.

Whilst the installation of the system may look invasive and scary the results speak for themselves, this green was back in play within 4 weeks and has not had any adverse comment or defect. The Turfdry Drainage System is highly recommended and Turfdry is a very professional organisation".

The remaining six greens at Thorndon Park GC will be drained in October 2012, and in September Turfdry will be installing similar systems at Great Barr GC, Birmingham, and Wyke Green GC, Middlesex, where the system was first installed on other greens eight years ago.

For further information please visit www.turfdry.com or phone 01283 551417.