# Wool: Aggregate Path on Peat

Path construction through peat can require deep excavation to reach a firm base. Where the peat depth exceeds 500mm this may be impractical. Either large quantities of material are required, or, without a firm base, the path structure will be unstable. The use of sheep fleece, to provide a firm base and 'float' the path over deep peat, has developed from ancient road engineering and construction methods and is an environmental alternative to geotextiles. To minimise levels of contaminants present, the wool should be sourced as locally as possible and is used in its raw state with no treatments, cleaning or further processing, from sheep managed in accordance with British Wool Board standards, and complying with licensed animal health product usage requirements. It is expected that the use of wool will have a performance and longevity of at least that of a geotextile membrane, and that wool is an appropriate and sustainable alternative when used in this way.

## FUNCTION

Wool laid under the path separates the path material from the peat; it prevents aggregate loss and the path subsequently disappearing. If laid well, this results in a stable and durable path. This technique reduces the amount of excavation and aggregate required compared with excavating to a hard base and infilling with large quantities of stone.

## Bill of Quantities (example)

Construct aggregate path on sheep fleece to a depth of 400mm and to a variable width, between 800 -1200mm. Follow with larger aggregate base and surface with finer material to be a minimum depth of 250mm. No wool to be left exposed above the path surface.

# CONSTRUCTION

## Components

The components are as for an aggregate path, with one important addition - the path tray is lined with wool. Turf edging may be required to prevent wool exposure at the path edge.

## Dimension guidelines

These are as for an aggregate path with the exception of the path tray depth. This should be 150mm minimum but need be no more than 250mm. The pressure of use will determine the need for a stronger path base to the maximum depth - for example, if the path will be used by ponies.

A deep path tray should not be excavated where the peat is wet and has minimal vegetative content. Either a shallow tray can be carefully dug, or, preferably, the tray depth formed with good size turfs, to provide a stable path edge, and the path built up over the eroded vegetation surface, rather than dug down into it.

If the peat has no structure or is very wet, the formed tray should be increased to 300mm wider than the required path width, on each side. This allows for a greater width of fleece, which will give added strength to the path base, and allow better water drainage from the path surface. Good size turfs will be required to place over the excess width of fleece, and to create the tray edges.

## Materials

Any type of fleece can be used, but those without a ready market and preferably of a coarse variety produced on the moor, are the most sustainable and readily available. These can be in the rolled form or as they come off the sheep and do not need any form of treatment or further manufacture.

## Method of Construction

## Step 1

Form the path tray

- excavate the tray as for an aggregate path, with the exception that the depth does not need to reach a solid base
- form a base that is level and even for laying the fleeces on
- if the peat is very wet, or has no vegetative content, form the tray depth and sides with good size turfs, after laying fleeces on top of the current surface

## Step 2

Lay the fleeces

- line the path tray with the fleece crossing joints to virtually fill the tray as they will compact under the weight of the aggregate

## Step 3

Incorporate drainage features

- construct drainage features as for an aggregate path, with the exception that the fleece should be laid to continue into drainage trenches under the stones used in forming the drain

## Step 4

Construct the aggregate path

- take care to prevent any puncturing of the fleece mat when laying and compacting the lower layer of base, or sub-base material
- care is also required if moving aggregate along the prepared path tray with a powered track barrow; minimise the number of movements as far as possible

## Step 5

Edge finishing

- make sure that any turfs already laid are effective in covering the wool and containing the aggregate
- the path edges may require further turfing and landscaping, to define the line and 'soften' the appearance
- use excess turf and spoil from the tray excavation to re-instate any eroded or damaged ground, and for in-filling any borrow pits if used

# VARIATIONS

Other methods have traditionally been used to float paths over deep peat, particularly heather, tree brash, or wooden stakes or a combination of all three. These work like the wool on the acidic preservative nature of the peat to maintain their structure.

Where it is not feasible to excavate a path tray, a 'causeway' may be constructed with a geotextile base. The path sides are contained by large boulders with spoil and turves, which must be placed to provide a solid edge. If the path is traversing a slope the uphill slope may provide an edge. A double course of boulders or very large turfs will be required to take a causeway path through a particularly wet area.