

# Embankment Drainage

Starter Layer, Fildrain, Melton Mowbray Distributor Road, UK



CASE STUDY

## Project Description

The Melton Mowbray Distributor Road is a new 7.1km bypass to the North and East of the town of Melton Mowbray. The road is being built to relieve congestion through the town and provide housing and development opportunities in the area. As part of the scheme, extensive new cycling and walking routes are also being provided.

## The Challenge

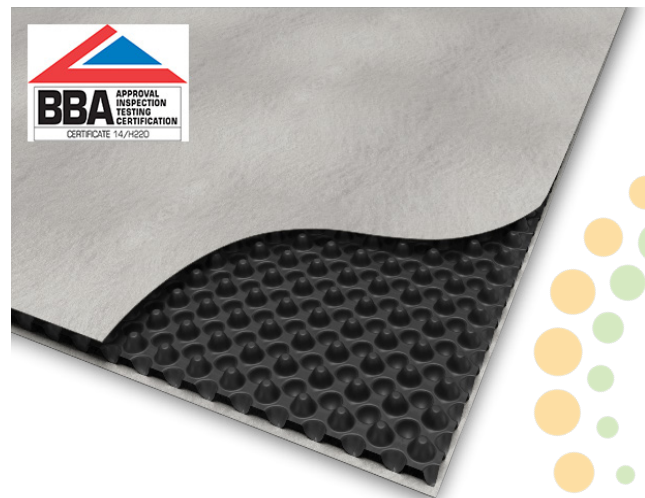
Sections of the road are being built onto embankments which require a drainage layer beneath them to remove water from the underlying soils. The specified starter layer for numerous embankments required a 500mm thick 6C drainage stone with a separation/filtration geotextile layer both above and below. Concerns over the environmental impact of importing the required 8,829 tonnes of stone via 444 trucks led Galliford Try to seek a value engineering solution to reduce time, cost and carbon emissions.

## The Solution

In collaboration with Burdens, Galliford Try explored alternative solutions. Burdens proposed using ABG's BBA approved Fildrain geocomposite drainage layer with a 7mm cusped HDPE core. The Fildrain 7DHD product completely replaces the need for the traditional 6C fill and separate geotextiles.

## Project Information

<b>Client</b>	Galliford Try
<b>Distributor</b>	Burdens
<b>Product</b>	ABG Fildrain 7DHD/ST170
<b>Quantity</b>	50,000m <sup>2</sup>
<b>Benefits</b>	<ul style="list-style-type: none"><li>• Multi-directional flow</li><li>• Alternative to a 6C stone layer, delivering 66% / 5,880 tonnes carbon saving</li><li>• 135% cost saving and 50% decrease in construction time</li></ul>



ABG Fildrain 7DHD/ST170

ABG LTD

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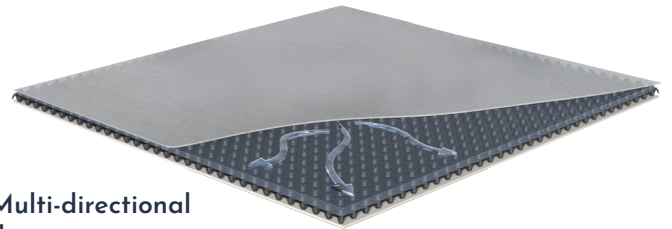


The innovative double sided core provides multi-directional flow and delivers significant savings in time, cost, and carbon emissions. Fildrain also offers significant carbon savings of 66% compared to the traditional stone. This is as a result of saving hundreds of stone deliveries from a quarry 19 miles away when compared to a much smaller number of Fildrain deliveries.

Fildrain required a departure from the standard design and following meetings with the consultant AECOM and Leicestershire County Council, approval to use Fildrain was granted.



The Melton Mowbray Distributor Road scheme has been submitted for the annual Ground Engineering awards and has made it to the finals in the sustainability project category.



Multi-directional flow

## The ABG Service

ABG's Design Department provided carbon saving calculations to support the variation and sustainability proposals and installation and setting out guidance on commencement of the scheme.



50,000m<sup>2</sup> of 7mm Fildrain at 2.35kg CO<sub>2</sub>e per m<sup>2</sup>



5,880 tons of CO<sub>2</sub> saved compared to traditional methods



4 Fildrain deliveries compared to 444 aggregate deliveries



A total of 66% CO<sub>2</sub> saving



Overview of the route

Carbon saving alternative

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