

# Stabilisation, Attenuation, Protection

Abweb, Abgrid & Terrex, Devour, Holmfirth, UK



CASE STUDY

## Project Description

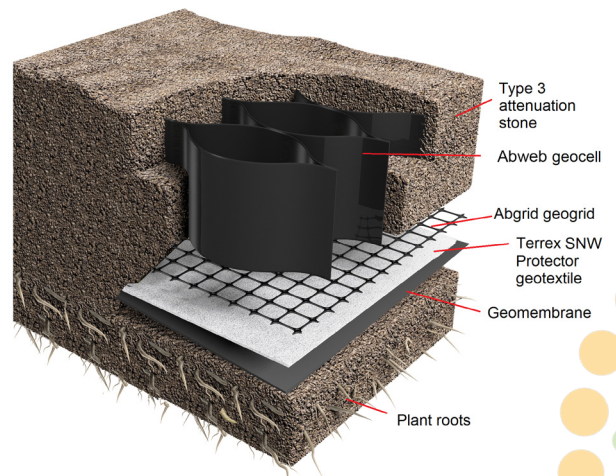
In 2017 permission was granted to start the redevelopment of a historic abandoned mill in the Thongsbridge area of Holmfirth into a restaurant and cookery school. One of the main attractions was that it was situated in a scenic wooded valley at the side of the River Holme. Even before permission was granted for the development, concerns were raised as to the effects any development might have on local traffic. It was, therefore, essential that a spacious car park be constructed to avoid congestion on neighbouring streets. The client wanted to create an attractive, permeable and environmentally friendly car park surface adjacent to the river. Planning restrictions also gave strict limits on the discharge rates to the river from the car park.

## The Challenge

Although the area to the rear of the building provided a large space seemingly ideal for development as a car park and delivery area, it soon became clear that the ground next to the river was soft and required stabilisation. After further investigation, it was revealed that the north part of the car park had a previously unidentified millrace. This supplied water for the original mill and had accumulated a deep layer of silt. The ground in this area had a CBR value of less than 1%. In addition the site required a root barrier system. To completely dig out the area would be a costly and impractical task and any excavated soil would have to be treated as unsuitable fill and externally treated or dumped. The soft area was a late discovery when formation level had been cut, so there was little programme time to carry out additional work.

## Información sobre el proyecto

<b>Client</b>	Devour
<b>Contract</b>	Radcliffe Construction
<b>Consultant</b>	ONE17 Architects
<b>Products</b>	Abweb GWX Geocell Abgrid 30/30 Geogrid Terrex SNW40UV Protection Geotextile
<b>Quantity</b>	500 m <sup>2</sup> , 2,000 m <sup>2</sup> , 2,000 m <sup>2</sup> respectively
<b>Benefits</b>	<ul style="list-style-type: none"><li>• No additional sub-base depth</li><li>• Rapid construction minimum delays</li><li>• Used locally to solve local soft spots</li></ul>



ABG Stabilisation Solution

ABG LTD

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## The Solution

ABG offered a **Abweb/Abgrid** stabilisation combination over the soft areas, to stiffen the Type 3 attenuation layer and to produce a stable subbase. The depth of stone had to be maximised, so a thick **Terrex SNW** geotextile protection layer replaced the 50mm sand blinding being used over the geomembrane. **Terrex SNW** was easier to place and provided better protection than the sand. **Abgrid** was then placed as a basal stiffening layer and Abweb tied using **Abfix Ties** to the grid. This avoided the need for pins which would pierce the geomembrane. Abweb was filled with Type 3 attenuation stone and then compacted to finished level producing a firm stabilised surface ready for the placement of the **Sudspave** permeable paving. (see ABG SuDS Permeable Paving Devour Mill CASE STUDY). No material was removed from site with minimal delay to the filling operation.

## The ABG Service

ABG offered design support and advice, including technical calculations and site visits.



Abweb geocell expanded and attached to Abgrid using Abfix Ties placed over soft soil areas. Pinning was not allowed as this overlays the **Terrex SNW** protector geotextile on top of the geomembrane. All rapidly installed and at original formation and finished levels.



Formation: Soft river silt, high water table, CBR<1%



Endorsement from excavator driver. "Amazing!"

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