

Vegetated Retaining Wall

ABG Webwall, Redsky Rise, High Wycombe, UK



CASE STUDY



Project Description

Redsky Rise in Loudwater, High Wycombe is a bespoke development of 14 homes in the heart of Buckinghamshire. Central London is just 30 miles away and Oxford, Aylesbury, Maidenhead and Slough are also within easy reach.

The Challenge

The land to the south of the site rises upwards towards the nearby M40 and the garden level of the new housing development on Kingsmead Road lies approximately 10m below the adjoining field.

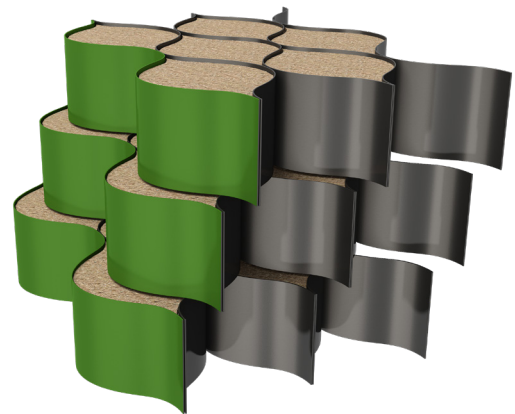
A concrete or gabion wall structure would be expensive, more time consuming to construct and difficult to transport the materials around the restricted site. The height and width of the wall would also look oppressive with a stone / concrete facing, and so a more natural aesthetic was desired by the architect.

The Solution

The gravity retaining wall required along the western boundary of the site is 30m long and on average the wall height is 4.75m, reaching up to 8.25m in the south-eastern end. Once setting out of the wall for alignment and the footing depth was established into the structural chalk formation, each successive layer of the **Webwall** panels is expanded into position and backfilled with site-won soil.

Project Information

Client	Redsky Homes
Consultant	GA&A Design Ltd
Product	ABG Webwall
Quantity	150m ²
Benefits	<ul style="list-style-type: none">• Steep green wall up to 8.25m in height• Natural aesthetic• Quick to construct with curved sections possible



ABG Webwall Geocell

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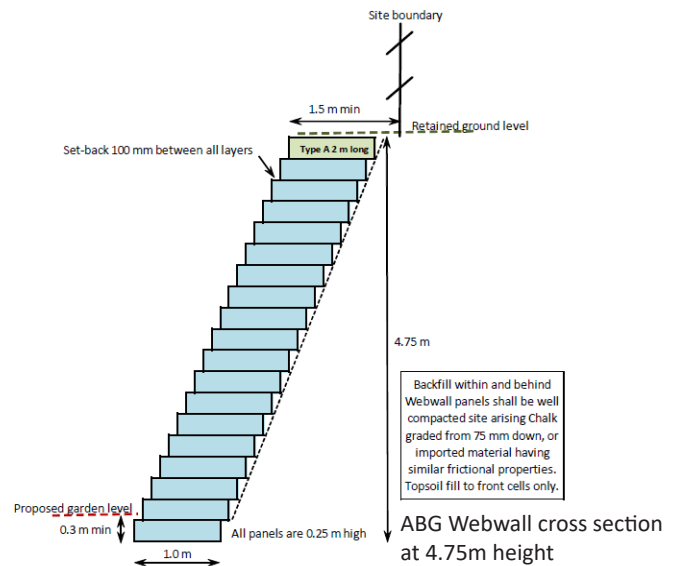
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The use of site-won soils minimises the amount of spoil required to be transferred off-site and greatly reduces the associated carbon footprint. Each panel is stepped back 100mm to reach a desired 68° overall wall face angle. By enabling a steep slope angle to be formed, the **Webwall** design adds approximately 0.5m of additional perimeter space to the garden areas. The **Webwall** geocellular panels are supplied in easy to handle flat sections which are expanded into position on site. This system is much lighter and more economical to install and transport compared to stone options. The panels are flexible and can be easily curved to suit the alignment of the site. The wall design was carried out in accordance with EC7, founded on structured Chalk, with design parameters as recommended in C574.

The ABG Service

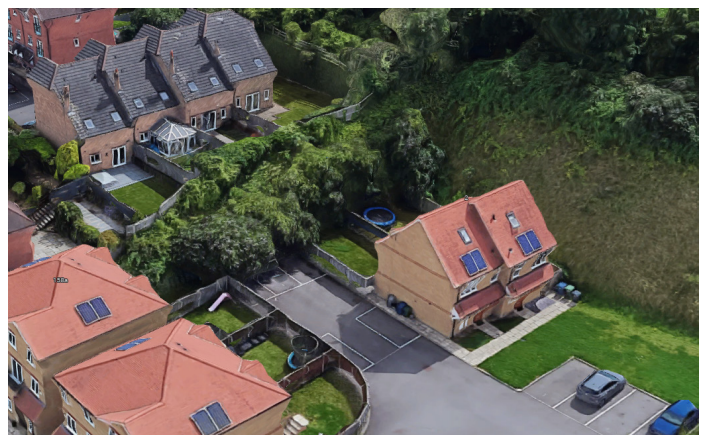
ABG's Geotechnical Engineers provided section drawings for the gravity **Webwall** design factoring in the ground conditions, bearing capacity, settlement, sliding and overturning failure risks.



Webwall system reaching up to 8.25m tall at the far corner of the site



Webwall following initial grass coverage to provide a green finish



Webwall fully established following further growth / planting

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