

Blackburn Housing Development Retaining Wall

Blackburn, Lancashire



TYPE OF PROJECT

Mass Gravity Retaining Walls

YEAR OF CONSTRUCTION

2021

CLIENT

Countryside Properties

CONTRACTOR

Countryside Properties

DESIGNER

Williams Walling Ltd

PROD. RELATED

Gabions (495m3)

Challenge

A residential development on Queen Victoria Street in Blackburn, led by Countryside Properties, presented significant ground engineering challenges due to the site's sloping terrain. In order to create level platforms for housing and maximise the available development area, a retaining wall was required along a key boundary.

The original design specified a pre-cast concrete retaining wall. However, this solution raised concerns in terms of cost, constructability, and overall value. Countryside Properties therefore engaged Maccaferri to provide a value-engineered retaining wall solution that could meet structural requirements while improving efficiency and reducing project costs.



Finished gabion wall stretching along the line of properties



Finished Gabion wall

Solution

Maccaferri proposed a gabion retaining wall as a cost-effective and high-performance alternative to the pre-cast concrete system. The solution consisted of a 200-metre-long mass gravity gabion wall, with heights reaching up to 3.5 metres. The wall was designed with a steep front face to maximise usable land for housing development, significantly improving site yield.

This gabion wall system not only reduced construction costs but also simplified installation compared to pre-cast concrete, offering both economic and programme advantages.

Due to sections of the wall being located adjacent to an existing roadway, the structure required enhanced durability to withstand exposure to winter salt spray and aggressive environmental conditions. A 120-year design life was specified for these areas.

To meet these requirements, Maccaferri utilised double-twist woven mesh gabions, manufactured from steel wire with a zinc-aluminium galvanised coating and an additional PoliMac polymer coating. This advanced protective system ensures long-term performance and corrosion resistance, even in harsh environments, and is fully supported by BBA Certification.

The gabions were filled with locally sourced, hand-placed stone, creating a visually appealing, natural dry-stone wall finish that complemented the residential setting. Standard galvanised gabions were not suitable for this project, as they would not have achieved the required design life under these exposure conditions.



Gabion wall under construction



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