

7m High Retaining Wall for Warehouse Development in Luton

Luton



TYPE OF PROJECT

Reinforced Soil Walls And
Slope Reinforcement

YEAR OF CONSTRUCTION

2025

CLIENT

Glencar

CONTRACTOR

Glencar

DESIGNER

Maccaferri/Geoman

PROD. RELATED

TerraMesh (2000m2)

Challenge

The construction of a large commercial warehouse near the M1 in Luton required the design and installation of a high retaining wall exceeding 7 metres. The retaining structure needed to align precisely with the building line, integrate with structural columns, and provide stable support for the warehouse slab under strict settlement tolerances.

The original retaining wall design specified a reinforced soil wall with a concrete panel facing and gabion cladding for aesthetics. However, this approach presented several challenges. The rigid concrete panels limited flexibility on site, particularly where the wall intersected with building columns. Installation complexity and sequencing risks threatened the project timeline, while accommodating column penetrations within the wall added further engineering difficulty.

With a fast-track construction programme in place, the project required a retaining wall solution that could deliver structural performance, adaptability, and rapid installation without compromising long-term durability or safety.



Terramesh units with ParaGrid geogrids reinforcement being



Terramesh mid-construction

Solution

Maccaferri proposed an alternative reinforced soil retaining wall solution using the Gabion Terramesh system combined with high-performance Paragrid geogrid reinforcement. This engineered system provided a flexible, efficient, and cost-effective solution tailored to the project's constraints.

The Gabion Terramesh units, consisting of double-twisted wire mesh baskets filled with stone, allowed the retaining wall to be shaped around structural building columns with ease. This flexibility eliminated the limitations associated with rigid concrete panels and ensured seamless integration with the warehouse structure. The columns were sleeved to protect against potential movement and maintain structural integrity.

A detailed geotechnical settlement analysis was carried out to assess ground behaviour and confirm compatibility between the retaining wall and the warehouse slab. This ensured that the solution met all performance requirements, minimised differential settlement, and reduced long-term maintenance risks.

The inclusion of Paragrid reinforcement enhanced the overall stability of the reinforced soil structure, improving load distribution and ensuring compliance with engineering design standards.

From a construction perspective, the modular Gabion Terramesh system enabled rapid installation, significantly reducing build time compared to traditional retaining wall methods. This efficiency helped the project stay on schedule while maintaining high-quality standards.

The final solution delivered a high-performance retaining wall that met all structural, aesthetic, and programme requirements. By combining flexibility, durability, and speed of construction, Maccaferri's system provided an optimised retaining wall solution for a complex warehouse development near the M1 in Luton.



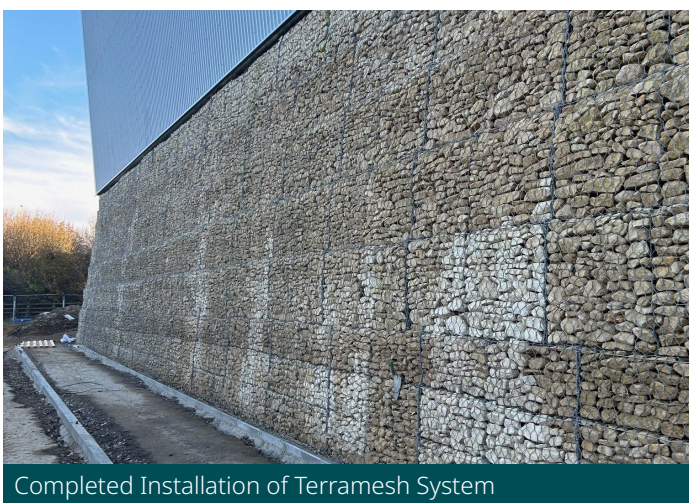
Corner profile of Terramesh wall



Terramesh wall in the final stages



Completed Installation of Terramesh System



Completed Installation of Terramesh System



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