Castle Walk Slope Stabilisation Project, Bridgnorth, Shropshire

Bridgnorth, Shropshire



TYPE OF PROJECT	YEAR OF CONSTRUCTION	CLIENT	CONTRACTOR	DESIGNER
Soil Nailing	**2025**	**Bridgnorth Town Council**	**Derbyshire Geotechnical Ltd**	**Nova Geo Consulting**

PROD. RELATED
GeoMats (1000m2)

Challenge

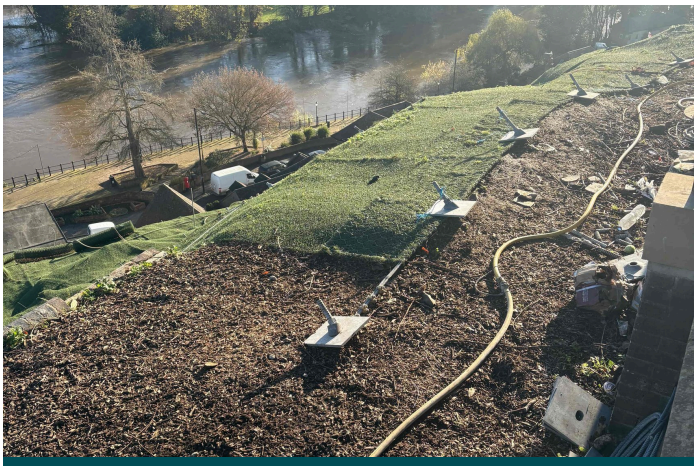
Castle Walk is located on the eastern side of High Town in Bridgnorth, Shropshire, at the crest of a near-vertical Bridgnorth Sandstone cliff overlooking the River Severn and Low Town. The route is an important pedestrian connection within the town, linking to Underhill Street via both St. Mary's Steps and the historic Bridgnorth Funicular Cliff Railway.

The slope has a long history of instability and landslip activity, with ongoing movement affecting the retaining wall that supports the Castle Walk footpath. Over many years, weathering, erosion and ground movement within the soil overburden increased the risk of slope failure and created concerns for public safety and the long-term stability of the surrounding infrastructure.

In late 2022, multiple failures were identified within sections of the retaining wall. Emergency repair works were carried out along approximately 65 metres of the structure to address the immediate defects. However, while the repairs stabilised the most critical areas, they did not resolve the underlying geotechnical issues responsible for the wider slope instability.

As movement continued across the slope, it became clear that a permanent slope stabilisation solution was required to prevent further landslips, protect Castle Walk and secure the cliff face overlooking the River Severn.





Solution

In 2025, geotechnical engineers from Nova Geo Consulting designed a permanent slope stabilisation system combining R32 soil nails with Maccaferri Macmat R, a flexible steel mesh facing with an integrated erosion control mat. The solution transformed the unstable slope into a reinforced soil mass securely tied back into the stable sandstone cliff beneath.

The stabilisation works were delivered by Derbyshire Geotechnical Ltd over a 12-week construction programme during late 2025. Due to the restricted access and steep terrain, the installation was completed using a top-down construction method with roped access operatives and lightweight drill rigs, as larger plant equipment could not safely access the site.

In total, approximately 205 soil nails and 1,000m² of Macmat R were installed across the slope. The soil nails provided long-term reinforcement by anchoring the unstable soil into the competent sandstone strata below, significantly improving slope stability and reducing the risk of future movement.

The Macmat R system combined high-performance double-twist steel wire mesh with an integral erosion protection mat to stabilise shallow surface slips between the soil nails while also protecting the slope against further erosion and weathering. Because the erosion mat is integrated directly into the steel mesh system, installation could be completed in a single application, reducing construction time by approximately 50 percent and significantly lowering health and safety risks associated with prolonged working at height.

The green-coloured erosion mat also delivered immediate environmental and visual benefits by giving the slope a natural vegetated appearance before planting became fully established. Over time, the three-dimensional erosion mat integrates into the vegetation root structure, providing additional long-term erosion resistance and reinforcement.

The steel wire mesh component of Macmat R is coated with Polimac, an advanced polymer coating system that delivers exceptional durability in aggressive environmental conditions. The system is supported by a BBA-certified design life of up to 120 years, ensuring a sustainable and low-maintenance slope stabilisation solution for the Castle Walk landslip remediation project in Bridgnorth.







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