

# Maidstone East



Southern Renewals  
Enterprise



Catch Fence &  
Stabilisation Works



May 2026



9 days

## Delivering Critical Rockfall Protection and Emergency Slope Stabilisation Within a 9-Day Railway Possession

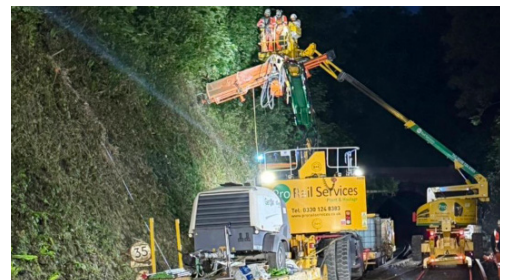
Universal Piling & Geotechnical successfully delivered a major rockfall protection and slope stabilisation scheme at Maidstone East Rock Cutting during a tightly constrained 9-day blockade. The works involved the installation of 428m of Geobrugg 100A-R catch fencing, together with associated soil nailing and rockfall mitigation measures, on a steep cutting with a long-established history of instability and rockfall events.



Following completion of the de-vegetation works and the setting out of the catch fence alignment, it became apparent that a section of the cutting face beneath the proposed fence line exhibited signs of instability that required immediate engineering intervention. A joint inspection undertaken midway through the blockade by Network Rail, Southern Renewals Enterprise and Tony Gee designers identified the need for additional stabilisation measures to ensure the long-term integrity of the slope and the safe operation of the railway following handback.



Working collaboratively with the design team, a revised stabilisation solution was rapidly developed and approved, requiring the installation of a further 30 soil nails and 176m<sup>2</sup> of passive rockfall netting beyond the original project scope. Through proactive supply chain management and the flexibility of our operational teams, all additional materials, specialist plant and resources were sourced and mobilised within 24 hours of the designer's site visit. The supplementary works were successfully completed within the possession window, with time remaining before handback.



The project showcased Universal Piling & Geotechnical's multidisciplinary expertise in rope access operations, specialist drilling, soil nailing, rockfall protection and catch fence installation, while demonstrating our ability to respond decisively to changing site conditions without compromising safety, programme or quality.

### Universal Group

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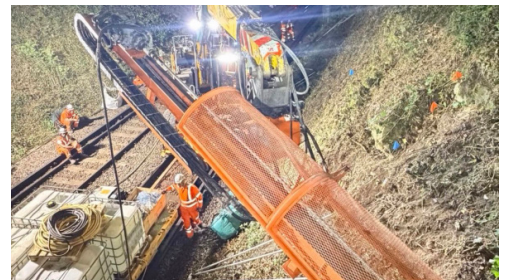
## Scope of Works

Our team mobilised to site one week prior to the blockade commencing to receive and organise all plant, equipment and materials, including the Geobruigg catch fence system and its ancillary components. This pre-possession period was used to prepare and stage equipment strategically, enabling works to commence immediately once possession was granted.

At the start of the blockade, the specialist de-vegetation team cleared vegetation from the lower sections of the cutting face using RRV-mounted MEWPs. With the face exposed, an RRV fitted with a drill mast commenced the installation of 98 R32 soil nails to a depth of 3.5m, providing the foundation anchorage for the catch fence posts. A high-strength rapid-setting grout was specified for the project, achieving full design strength within 24 hours and allowing subsequent fence installation activities to proceed without delay.

A second RRV was then mobilised to lift and position each fence post, with operations coordinated by IRATA-qualified rope access technicians who directed both the RRV operator and crane controller. Once drilling activities were complete, the drill mast RRV was off-tracked, allowing the remaining RRV to focus solely on fence installation activities. The rope access team subsequently progressed the cabling works, threading and tensioning the wire rope system before installing and securing the mesh panels, ultimately completing the catch fence installation across both the Up and Down sides of the cutting.

Given the limited possession duration, the presence of multiple contractors working simultaneously and the proximity of fibre optic and high-voltage services within the cess, safety management and programme coordination were critical throughout the project. During drilling operations, robust exclusion zones were established to maintain a safe working environment. Terram membrane and crash barriers were installed to protect buried services and prevent ballast contamination. Access to the cutting crest was only achievable via a third-party property, requiring carefully managed access and egress arrangements to minimise disruption to the landowner throughout the duration of the works.



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## Key Activities

Once track access was established, our team successfully delivered the following programme of specialist geotechnical and rockfall protection works:

- Setting out and pre-drilling surveys using RRV-mounted MEWPs to establish accurate nail and post locations across both faces of the cutting.
- Installation of 98 R32 soil nails to a depth of 3.5m using high-strength rapid-setting grout achieving full design strength within 24 hours.
- Installation of 35 catch fence posts, 4 brace posts and 8 support rope separation anchors across the Up and Down sides of the cutting.
- Construction and commissioning of 428m of Geobrugg 100A-R catch fence, comprising 168m on the Down side and 260m on the Up side, utilising approximately 1,300m of cable, 130 cable grips and 180 helix coils.
- Installation and load testing of sacrificial test nails to full design depth to verify ground conditions and confirm design nail capacity.
- Collaborative design optimisation through the sharing of test results with Tony Gee engineers, enabling soil nail lengths to be reduced and delivering programme and cost efficiencies for the client.
- Following completion of the de-vegetation works and catch fence setting out, an area of potentially unstable rock face was identified beneath the proposed fence alignment. A joint inspection involving Network Rail, Southern Renewals Enterprise and Tony Gee engineers resulted in the development of an enhanced stabilisation solution comprising an additional 30 soil nails and 176m<sup>2</sup> of passive netting.
- Through rapid mobilisation of additional resources, specialist labour, plant and materials within 24 hours of the design review, the revised scope was successfully completed within the possession programme, ensuring the safe operation of the railway following handback.



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## Demobilisation & Reinstatement

Upon completion of all works, plant and equipment were safely removed via the designated RRAP access point. The worksite and surrounding railway infrastructure were thoroughly cleaned, with the line jet-washed and all waste materials removed from site.

The asset was subsequently handed back in a clean, safe and fully operational condition, meeting the requirements of both the client and asset owner.

## Outcome

The Maidstone East Rock Cutting project demonstrates Universal Piling & Geotechnical's ability to successfully deliver complex geotechnical and rockfall mitigation works within the demanding constraints of a safety-critical railway environment.

Through meticulous pre-possession planning, effective stakeholder collaboration and the seamless integration of specialist drilling, rope access and geotechnical expertise, the team delivered 428m of catch fencing and associated stabilisation measures safely and on programme.

Crucially, when previously unidentified instability was encountered during the blockade, Universal Piling & Geotechnical worked closely with Network Rail and Tony Gee to develop and implement an enhanced stabilisation solution at short notice. By sourcing additional resources and materials within 24 hours and delivering the revised scope without impacting the possession programme, the team ensured the long-term stability of the cutting and the safe operation of the railway.

The project stands as a strong example of our ability to combine technical expertise, operational agility and collaborative problem-solving to deliver successful outcomes in challenging rail infrastructure environments, while consistently maintaining the highest standards of safety, quality and programme performance.

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