

**Project Info**


27 / 09 / 16



CC8™ Bulk Rolls


 750m<sup>2</sup>


Transverse layers


 Corbridge,  
Northumberland, UK

 Construction Marine  
Limited

 CC8™ was used to line  
a channel as part of a  
scheme to repair the  
landslide which closed  
the Corbridge rail line in  
January 2016.

*Completed works near the Corbridge rail line*

In September 2016, Concrete Canvas® GCCM\* (CC) was used to provide channel lining at a site in Corbridge, Northumberland, UK. The channel was part of a crest drain situated at the top of a 25m deep cutting on a site near a railway line.

On 7th January 2016, the steep slope overlooking part of the Newcastle to Carlisle rail line between Corbridge and Riding Mill, on the south side of the line, suffered a significant failure, resulting in a landslide which covered the tracks in soil, debris and fallen trees, closing the line. The event occurred following a prolonged period of heavy rainfall, which was reported to be the most exceptional period of rainfall on record for the area, with significant overland flows breaching the existing drainage network at the crest of the cutting slope, triggering the landslide.

As a result, the main scheme involved the contractor removing over 50,000 tonnes of soil and rock from the site and importing a further 10,000 tonnes of rock fill to reinforce the cutting slope. The line was reopened on 8th February 2016.

The channel installed using CC helped to direct and control drainage on the site, and was specified to be deeper than the original drainage system, in order to ensure it was able to manage the volume of water flowing through it. CC was specified to reduce the risk of any future water ingress into the cutting. The works were carried out by Construction Marine Limited for Network Rail.

\*Geosynthetic Cementitious Composite Mat


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A V bucket was used to dig the channel



Site after ground preparation



Laying the CC8™



Ground pegs were used to secure the CC in the anchor trenches



CC under the overlaps were hydrated before fixing



Layers of CC were fixed using stainless steel screws



*Completed installation*

In preparation for the installation, CC8™ was delivered to site in bulk rolls and a V bucket was used to dig the crest drain. The CC was then mounted on a spreader beam and hung from plant for easy transportation and unrolling on site. The CC was unrolled transversely across the channel and cut to profile length using hand tools, with layers overlapping by 100mm. The CC was then hydrated between overlaps and fixed using stainless steel screws and ground pegs used to secure it within the pre-dug anchor trenches, which were later backfilled following hydration.

In total, 750m<sup>2</sup> of CC8™ were installed by a team of six. The client was pleased with the installation, as it was not only easy and quick to install, but will also help contribute to the long term stability of the cutting and mitigate any potential land slip and subsequent line closures in the future.



**2 YEARS AFTER INSTALLATION**


Two years after the installation of CC, we returned to assess the performance of the material. CC was found to be performing as per the design specifications. The material is effectively providing water management to the site and is beginning to 'green'. The material will continue to green over time and blend into the surrounding environment.