

## Project Info



20 / 05 / 20



CC8™ Bulk Rolls



658m<sup>2</sup>



Transverse layers



Templecombe, Somerset,  
UK



NW Rail / Osborne



CC8™ used to line a  
crest drainage channel  
to prevent saturation  
of a cutting and  
recurrence of slip



OSBORNE



Completed channel lining installation on site in Templecombe; works ongoing on the rail line

In December 2019, bad weather and heavy rainfall caused a localised overburden and landslide at a cutting between Templecombe and Sherborne on Network Rail's Wessex Route.

Temporary repairs were made to reopen the line but a speed restriction was imposed for the safety of passing trains. Engineers returned a few months later to carry out a full repair.

The framework contractor, Osborne (working for Network Rail), initially considered clearing the existing crest ditch of vegetation in order to reduce blockages and build up on the channel invert. However, the channel would have still be prone to excessive erosion in the event of further heavy rainfall, and would inevitably have resulted in further slip.

As a result, it was decided that the existing 250m long ditch should be excavated and lined. Concrete Canvas® (CC) GCCM\* was therefore specified as a channel lining solution which would be able to provide durable and long-term erosion protection, as well as preventing saturation of the cutting and recurrence of the issue.

\*Geosynthetic Cementitious Composite Mat





In May 2020, NW Rail (sub-contractor to Osborne) began works on the site. As planned, they prepared the channel by removing all vegetation and reprofiling it using an excavator and V-ditch bucket. Bulk rolls of the specified 8mm thick CC variant (CC8™) were delivered to the site and suspended from an 8T excavator with spreader beam attached for deployment.

Beginning downstream, the first length of CC was secured within an anchor trench prepared on the far shoulder of the channel using 250mm long galvanised J-pegs. The material was laid transversely across the channel profile, cut to length in-situ and secured in the nearside anchor trench.

Subsequent layers of CC were shingled in the direction of water flow with layers overlapping by 100mm. The material below each overlap was hydrated prior to the application of an 8mm bead of Soudaseal adhesive sealant and then jointed using 30mm stainless steel screws.



Site prior to works



Proximity of crest drainage channel to rail line



Excavation of the channel using v-ditching bucket



Excavated channel prior to installation





*Measuring and creating anchor trenches*



*Bulk rolls of CC8™ were specified for the project*



*Deployment of the CC bulk rolls*



*CC cut to required length in-situ using hand saw*



*Securing CC within anchor trenches using ground pegs*



*Jointing overlaps with stainless steel screws*





*Completed Concrete Canvas® crest drainage channel lining installation*

Once the installation was completed, the material was hydrated using a 10,000L bowser and hose attachment; the anchor trenches were then backfilled to prevent ingress of water and wind. At the upstream end of the channel, the CC was terminated under a 250mm diameter plastic pipe; downstream, the CC was terminated into a precast concrete headwall.

A total of 658m<sup>2</sup> of CC8™ were installed in five days by a team of five, with around 150m<sup>2</sup> installed per day. The works were carried out in dry, sunny weather, with the team able to work while social distancing in line with the government's guidelines for COVID-19.

The project was deemed a success. While Network Rail regularly use CC for projects of this nature, the outcome of this project led to another order of CC8™ for additional works at Templecombe.