

Project Info



Summer 2018



CC5™ Bulk Rolls



2322m²



Transverse layers



Olivehurst, California, USA



Caltrans District Three Maintenance Dept.



CC used to remediate an existing concrete channel required to control road surface water runoff



Completed channel revisited

During the Summer of 2018, Concrete Canvas® - known as Concrete Cloth™ in the USA - was specified for use as a channel lining solution in Olivehurst, California, USA.

The California Department of Transportation (Caltrans) District Three Maintenance Department determined that a drainage system at the interchange of highways 65 and 70 in Olivehurst, Calif., needed maintenance. The drainage system combines runoff water from the roadways into a concrete drainage ditch that was functioning properly but showing significant surface deterioration. The department also wanted to increase the flow capacity of the channel to ensure that it could handle the increasing storms that have been facing the area.

Several options were considered for the project, however, CC was ultimately chosen due to the ability to quickly and easily install the material without lane possession or disruption to traffic. The material can also be installed in wet weather conditions and without any specialist equipment or training, allowing Caltrans' maintenance crews or local, unspecialised contractors to carry out the work. As a result, the client was able to save costs overall for the project.

CC material has been subject to an environmental testing program to determine the leachate that comes from the material during hydration. Analysis of the wash water has shown that the concentration of heavy metals is far below the US Environmental Protection Agency limits. CC also has a low alkaline reserve, which has enabled the material to be used by environmental agencies worldwide, as a friendlier alternative to conventional concrete.

*Geosynthetic Cementitious Composite Mat





Channel prior to installation



Joining of overlaps



Deployment of CC bulk roll



Completed channel

The existing channel was de-vegetated, anchor trenches created at the shoulders of the channel and major cracks and damaged sections were filled with a quick-set concrete fill material to avoid voids below the CC material.

The CC was then deployed from crest to crest, with overlaps facing the direction of waterflow to prevent ingress. The edges of the material were captured within the anchor trenches while overlaps were sealed using caulk and fixed to the existing concrete swale using masonry nails.

The transportation engineer for Caltrans District Three revisited the site two months after the completion of the project and was pleased with how the CC looks and was satisfied by its performance. The department is also looking at using CC for other applications, including culvert lining, swale and channel protection, weed suppression below guardrails, and slope protection.

"I saw a demonstration of Concrete Cloth GCCM before and noticed how easy it was to install. When I needed to repair this concrete ditch, I reached out to Milliken Infrastructure and we agreed that CC was an ideal option for the project."

Caltrans District Three Engineer