## CONCRETE CANVAS

### WEED SUPPRESSION



In May 2018, Concrete Canvas (CC) GCCM\* was used to provide weed suppression on sections of slope around folding post signal structures and under staging to location cabinets as part of the civil works to the Thameslink Programme F525 Angerstein Signal Renewals Works in South London.

Poured concrete would typically have been used for the full installation, but this would have been time consuming to place on a Sunday line possession. Additional excavation and preparatory work would also be required for this method, as well as a requirement for a larger volume of materials on site, also increasing logistical requirements.

Specifying CC would mean a fast, easier installation for the contractor, as well as reducing the line possession required for this project, allowing for other works to be carried out in addition, or for the line to be re-opened quicker. One single layer of CC5 material would replace 100mm of poured concrete. As a result of these time and material savings, the client would also see significant cost savings in comparison to the traditional solution.

The works were carried out by Seva Rail on behalf of Balfour Beatty Rail for their client, Network Rail.

\*Geosynthetic Cementitious Composite Mat



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A total of six slope sections required lining. Ahead of the installation, vegetation was removed from the slopes and the slope profiles graded. A perimeter anchor trench was then created for each section, allowing the edges of the CC material to be buried.

The CC5<sup>™</sup> material was delivered in bespoke length bulk rolls to minimise wastage and transported viarail trolleys and dispensed using a spreader beam, which was hung from a track mounted excavator.

The material was laid vertically, with the installation crew fixing the leading edge within the crest anchor trench using ground pegs, before deploying the lengths down the slope face and fixing again within the toe anchor trench. Subsequent layers were laid with the edge overlapping the last layer by 100mm, and the overlaps jointed using stainless steel screws. The perimeter edges were pinned at 1m intervals to ensure the material was secure and prevent ingress. Once the installations were completed, the material was hydrated via bowser.

Where the material had to be fitted around folding post signal structures, formwork was created to surround the post, which was later filled with poured concrete. The CC was installed around the formwork, with the toe anchor trench created along the edge of the formwork to provide a flush finish.





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Completed section of slope

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Each of the six sections of slope were completed in a single shift, without surpassing the Sunday line possession window. Due to the success of the installation, the client has specified CC for further installations around four further junction boxes elsewhere.

The contractor and client were both impressed by how quickly the CC could be installed, which resulted in drastically increased installation speeds for the projects and a durable and effective weed suppression solution. The time savings provided meant the line possessions were reduced to one shift for the works, minimising disruption to users.

The installation of CC along these sections will provide much-needed weed suppression around important and sensitive infrastructure, while also mitigating the need for future maintenance of the slopes, preventing the possibility of damage to the signalling system and mitigating the associated health and safety risks for maintenance crews.

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