

Project Info



12 / 10 / 2020



CC5™ Batched Rolls



600m²



Vertical layers



Somerset, England, UK



Murphy & Sons Ltd.



CC used as a bank erosion protection solution for a newly constructed joint bay cable pit for National Grid

nationalgrid
Hinkley Connection Project

MURPHY
WORLD-CLASS INFRASTRUCTURE



Completed bank erosion protection installation in Somerset

In October 2020, Concrete Canvas® GCCM (CC) was installed as a bank erosion protection solution at a site in Somerset.

The works were a part of the Hinkley Connection Project, where J Murphy & Sons Ltd installed 10.7km of underground 132kV electric cable. The Connection Scheme connected at strategic points between the towns of Portishead and Nailsea; several joint bays (or cable pits) were excavated at these points and the surrounding slopes or embankments lined with a 5mm thick variant of CC (CC5™), which was required to prevent erosion.

Previously, erosion protection of the joint bays had been provided using poured concrete with a float finish. CC was ultimately chosen due to the speed and ease of installation, and the reduction in wastage during the installation process.

The works were carried out by J Murphy & Sons Ltd for National Grid, with consultancy services provided by ARUP.

*Geosynthetic Cementitious Composite Mat



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Prior to installation, the joint bay area was excavated to a depth of 1m with the sides cut to a 1:1 batter and an anchor trench then excavated along the shoulder and toe of the slopes. The slopes were made smooth by removing any protruding roots and rocks and then filling in any remaining voids.

The CC5™ material was delivered to site in batched rolls; these were transported from the delivery vehicle in an excavator bucket and then unloaded and placed along the perimeter of the joint bay area ready for installation. The CC5™ batched rolls were secured in the anchor trenches using ground pegs. The CC was then unrolled down the slope face, cut to length at the toe and secured again within an anchor trench at the toe with further ground pegs. Adjacent layers of CC5™ were jointed using stainless steel screws inserted at 200mm centres approximately 50mm from the overlapping material edge. Once the installation was completed, the floor of the joint bay cable pit was covered with a layer of crushed stone shingle.

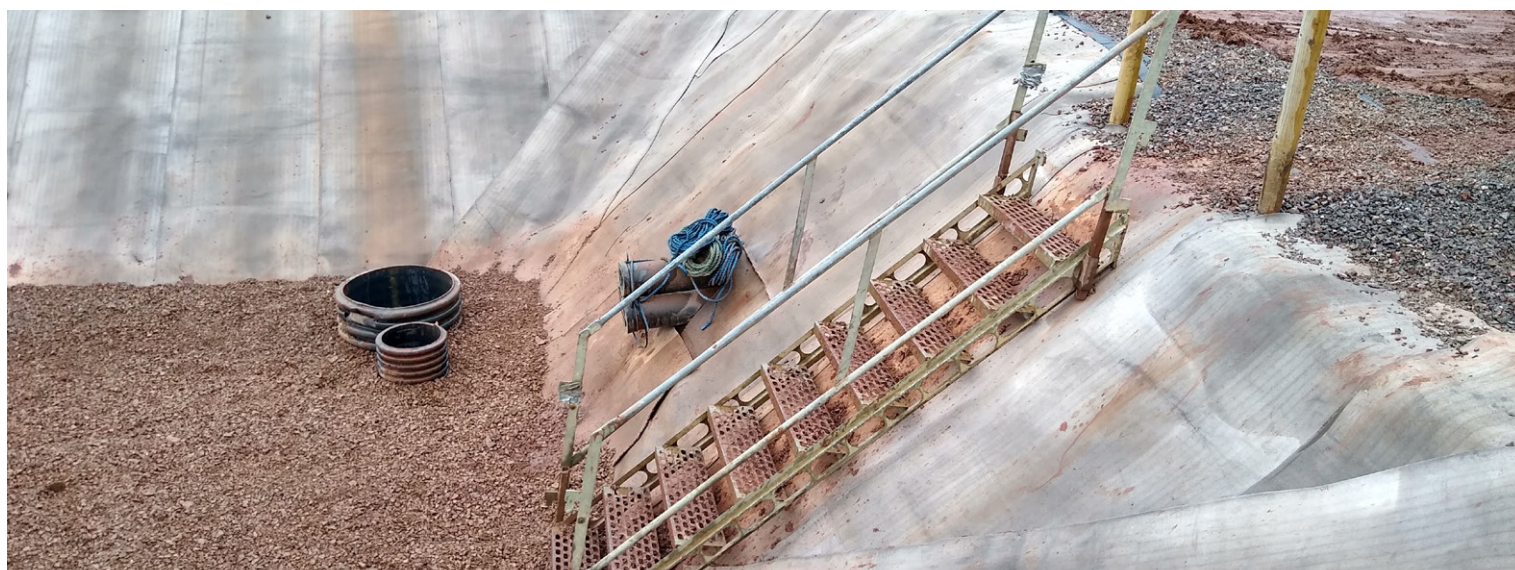
Following installation, the material was hydrated using a pump and lay-flat hose. The addition of the stone shingle provided better drainage within the pit, allowing the water to drain away during hydration.



Alternative poured concrete solution



CC installed vertically



CC easily accommodated existing infrastructure such as steps and protruding pipes



Completed installation

A total of 600m² of CC5™ were installed by a team of five over a period of two weeks. J Murphy & Sons Ltd were impressed at the performance of the material. They had lined the slopes of previous joint bays in conventional concrete; using CC offered reduced installation times and as it was much easier to install on the slopes.

“Concrete Canvas was quicker and easier to install than pouring concrete on a 1:1 slope, reduced the risk of concrete burns [as a result] and offered suitable erosion control.”

Charlie Gomer
Engineer
J Murphy & Sons Ltd