

## Project Info



01 / 06 / 18



CC5™ and CC8™ Bulk Rolls



5,500m<sup>2</sup>



Transverse layers



Wallumbilla, Queensland, Australia



FKG



CC5™ and CC8™ used to provide a channel and slope lining solution to prevent erosion and scour.



Completed channel and slope installations

In June 2018, Concrete Canvas (CC) GCCM\* was used to provide a channel and slope lining solution at a compression station in Wallumbilla, Queensland, Australia. The aim of the project was to provide erosion and scour protection.

Between the Surat Basin and Curtis Island in Wallumbilla, Queensland, there are a number of compression stations which aid in the transfer natural gas via huge pipelines. While being transported through a gas pipeline, natural gas needs to be constantly pressurised, which occurs at these stations. These stations are generally remote and unmanned.

The infrastructure and site required long term, maintenance free solutions that were both cost effective with excellent erosion and water management characteristics. On this particular site, erosion control was a significant component of the brief, both on the cut slopes and within the drainage channels. To prevent vegetation growth and to handle the erosive forces of a heavy rainfall event, CC was the specified option to line the slopes and drainage channel.

Shotcrete was the only other alternative due to the design requirements. However, this was ultimately not an option due to the site's location which complicated logistics and material sourcing. CC provided an all-in-one solution and would not require multiple deliveries, reducing CO2 footprint and vehicle movement. CC was also specified based on the performance testing that has been carried out on the material. This includes durability testing, large scale flume testing, and abrasion resistance testing.

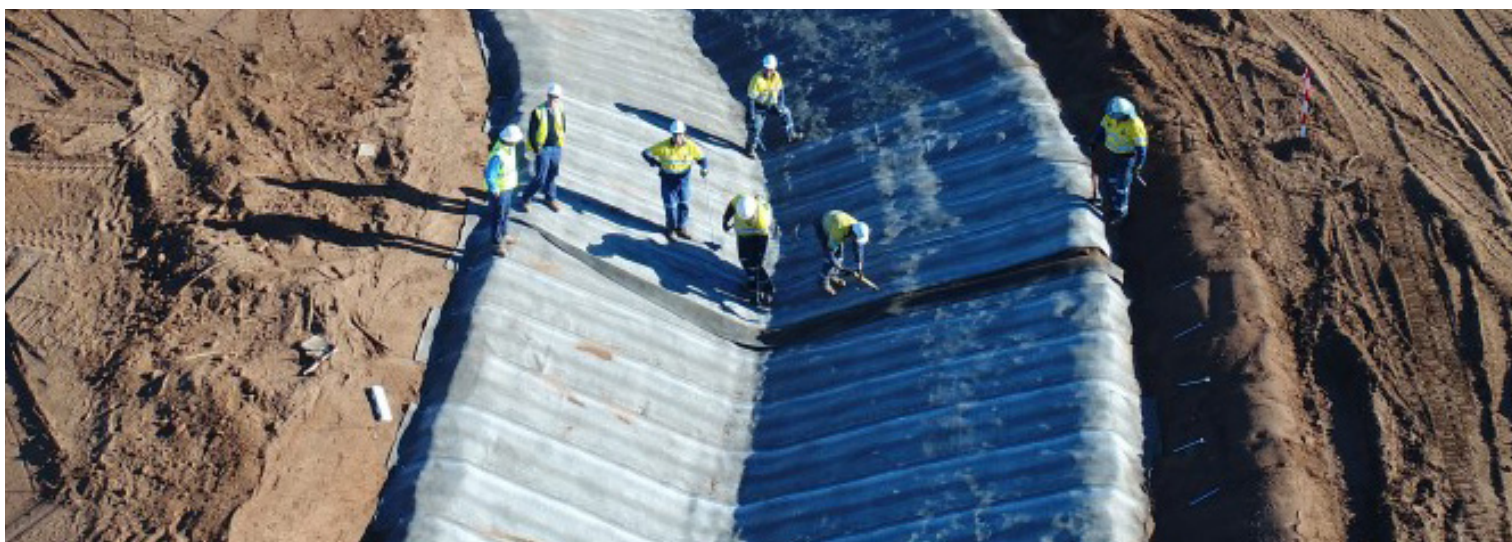
\*Geosynthetic Cementitious Composite Mat







*Installation of CC in channel*



*Joining CC overlaps with adhesive sealant*



*Overview of channel and slope installations*





*Completed installation*

Works were carried out by FKG for Santos, with consultation and assistance provided by CC and Geofabrics Australia.

A local sales engineer from Geofabrics, Concrete Canvas Ltd's official partner in Australia, went to site to give installation training to the contractor's team. The technical team of CC and Geofabrics Australia also helped with anchoring and pegging detailing for the transition between the CC5™ on the slopes and the CC8™ in the drainage channels.

Prior to the installation, vegetation was removed on cut batters in drains and adjacent to working platforms. The bulk rolls of CC5™ and CC8™ material were mounted on a spreader beam, hung from a 20-tonne excavator, and the CC5 laid vertically down the slopes, and CC8 laid transversely across channels.

CC was laid transversely after the removal of vegetation on cut batters in drains and adjacent to working platforms. 20mm stainless steel screws were used to joint overlaps at 200mm intervals, with 250mm and 375mm ground pegs used to fix the CC to the substrate, inserted at 2m intervals at the material edges. An adhesive sealant was also used to increase impermeability along overlaps. Hydration was completed using a watercart via direct spray and soaking methods.

A total of 5,500m<sup>2</sup> of Concrete Canvas® materials were installed on this project, taking approximately 0.2-man hours per square metre to install. The overall project is still under construction, but the CC installation component is completed and was successful. This solution saved money during installation and will provide a maintenance free slope and drainage channel for the life of the project.