CONCRETE CANVAS®

CHANNEL LINING

Project Info

- 01 / 10 / 22
- CCT3™ Bulk Rolls
- 200m²
- Transverse layers
- Gorebridge, Scotland, UK
- Anker Utility Services Ltd-AUS
- To provide protection to shallow cover high-pressure gas pipeline crossings for National Grid

Anker Utility Services Ltd

nationalgrid

Right justified picture caption

In October 2022, Concrete Canvas® (CC) GCCM* was used for a channel lining application in Gorebridge, which is located 14 miles south of Edinburgh in Scotland.

The National Grid key gas main had been identified to have a shallow soil cover, which is required to prevent damage in case unplanned excavation was to occur, and therefore didn't meet the required specifications. The gas main required an additional hard armour, visible protective cover and Concrete Canvas® was chosen over conventional concrete methods such as precast concrete slabs, as the remote location and soft ground conditions meant that additional logistical costs would be required to transport the heavier materials to site.

Inclement weather during the installation presented several challenges for the contractor. The channel was located in a bogland area and the soft ground was saturated due to heavy rainfall. The ground had sufficient bearing capacity to accommodate a 13 tonne excavator cutting the channel profile, but the additional weight of lifting and transporting heavy loads would cause the plant to sink.

The installation of precast concrete slabs would be difficult to handle and install due to their weight and require mobilisation of much larger plant than CC™. Therefore, five smaller custom sized rolls of CCT3™ material was chosen in order to provide the maximum protective cover, while reducing the overall weight of each roll.

*Geosynthetic Cementitious Composite Mat

© Concrete Canvas Ltd. 2023
+44 (0) 345 680 1908 info@concretecanvas.com www.concretecanvas.com
This document is provided subject to our General Disclaimer a copy of which can be found at https://linksto.cc/tlgd. All warranties, representations and other terms, express or implied, that may apply to this document or any information within it including warranties of merchantability, fitness for any particular purpose, and non-infringement of third party patents are excluded, and we accept no liability with respect to or arising from use of information or any product discussed in it. Patent and Trade Mark information can be found here: https://www.concretecanvas.com/patent-trademark-info/

Site prior to works

Water overpumped during the installation

Channel excavated & rock placed in invert

CCT3™ Bulk Rolls deployed using spreader beam

CCT3™ material laid transversely across channel

Prior to hydration

CONCRETE CANVAS®

+44 (0) 345 680 1908

info@concretecanvas.com

www.concretecanvas.com

© Concrete Canvas Ltd. 2023

This document is provided subject to our General Disclaimer a copy of which can be found at https://linksto.cc/tlgd. All warranties, representations and other terms, express or implied, that may apply to this document or any information within it including warranties of merchantability, fitness for any particular purpose, and non-infringement of third party patents are excluded, and we accept no liability with respect to or arising from use of information or any product discussed in it. Patent and Trade Mark information can be found here: https://www.concretecanvas.com/patent-trademark-info/

CC™ post hydration

CCT3™ easily accomodated existing pipes within the channel

© Concrete Canvas Ltd. 2023

+44 (0) 345 680 1908 info@concretecanvas.com www.concretecanvas.com

This document is provided subject to our General Disclaimer a copy of which can be found at https://linksto.cc/tlgd. All warranties, representations and other terms, express or implied, that may apply to this document or any information within it including warranties of merchantability, fitness for any particular purpose, and non-infringement of third party patents are excluded, and we accept no liability with respect to or arising from use of information or any product discussed in it. Patent and Trade Mark information can be found here: https://www.concretecanvas.com/patent-trademark-info/

Anchor trenches backfilled

Prior to installing the CCT3™ material, the contractor used an excavator and bucket to dig the 40m long channel. All sharp rocks and protrusions were removed from the channel and crushed aggregate was placed in the invert to ensure a stable substrate prior to laying the CCT3™ material.

The Bulk Rolls were delivered to site and deployed using a spreader beam mounted on tracked plant machinery. The material was unrolled into the channel transversely and cut to specific profile length to eliminate wastage. The CC layers were overlapped by 100mm in the direction of water flow and were then sealed and screwed together at 200mm intervals using 30mm stainless screws.

The material was terminated onto 300mm bench anchor trenches on either side of the channel and fixed to the substrate using 250mm ground pegs prior to being backfilled with the excavated soil to prevent water undermining. The leading and trailing edges of the material were terminated into 300mm anchor trenches on each side of the channel and backfilled with non-erodible fill. The CC was then fully hydrated at the end of every shift with a hose from a water bowser.

Installed over the course of two days in inclement weather conditions, CCT3™ provided a rapid and easy to install concrete lining solution, providing a long term visible shallow cover protection to the pipeline while still managing to reduce the logistical footprint of the project.

Ronnie Anker - Director
Mob: 07770 727965
Email: ronnie@aus-ltd.co.uk

© Concrete Canvas Ltd. 2023
+44 (0) 345 680 1908 info@concretecanvas.com www.concretecanvas.com
This document is provided subject to our General Disclaimer a copy of which can be found at https://linksto.cc/tlgd. All warranties, representations and other terms, express or implied, that may apply to this document or any information within it including warranties of merchantability, fitness for any particular purpose, and non-infringement of third party patents are excluded, and we accept no liability with respect to or arising from use of information or any product discussed in it. Patent and Trade Mark information can be found here: https://www.concretecanvas.com/patent-trademark-info/