CONCRETE CANVAS®

CHANNEL LINING

Project Info

- 15 / 06 / 15
- CC8™ and CC13™ Bulk Rolls
- 14,770m²
- Transverse and Longitudinal layers
- OPF Chayvo, Sakhalin, Russia
- CH2M Hill
- CC was used to line a series of channels to prevent erosion of camp infrastructure

Completed installation

In June 2015, Concrete Canvas® GCCM* (CC) was used to line a series of drainage channel at the Onshore Processing Facility (OPF) in Chayvo, Sakhalin, Russia. The camp is built on a class C sand substrate and is exposed to harsh weather conditions and temperatures down to -40°C. The temperature combined with up to 4m of snow present for the majority of the year means construction is only possible during the summer months. A trial channel installed the previous year to see if CC could cope with these conditions proved a huge success, leading to this much larger installation. CC is the only viable solution for this and other applications on this site, due to the extremely remote location and environmental conditions. The works were carried out by CH2M Hill for Exxon Neftgas Limited.

The channel was excavated and compacted using a vibrating plate, with anchor trenches dug along each shoulder. Bulk rolls of CC were mounted onto a spreader beam hung from a tele-handler and unrolled longitudinally or transversely depending on the channel profile. For transverse layups, the material was overlapped by 100mm in the direction of water flow. For longitudinal layups the material was overlapped by 100mm on the invert or sides of the channel for 2- and 3-width layups respectively. Pegs were inserted into the anchor trench through every overlap for transverse layups and every 2m for longitudinal layups. The overlaps were sealed with Sikaflex Pro 3 and jointed with screws placed at 200mm centres. Hydration was achieved using a 7000L water truck and hose with spray nozzle attached.

9250m² of CC8™ and 5520m² of CC13™ were installed in 3 weeks by 6 people. The client was very impressed with the speed of installation and drastic cost reductions. They have since ordered more CC for the next construction season.

*Geosynthetic Cementitious Composite Mat

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Site prior to works

Ground conditions prior to works

Graded channel

Substrate compaction

Sealing overlaps

Pegging CC into anchor trench

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CHANNEL LINING

Screwing overlaps

Hydration

CC accomodating turns

Pipe protrustion

Panoramic view of completed project

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