LAGOON LINING

Project Info

- 22 / 03 / 18
- CC5™ Bulk Rolls
- 997m²
- Vertical layers
- Bella Vista, Norte, Paraguay
- Pronto Cemento
- CC5™ was used to line the slopes of two lagoons for use as decanting tanks.

Completed lagoon

In March 2018, Concrete Canvas® GCCM* (CC) was used to line the sloping walls of two lagoons in Bella Vista, Norte, Paraguay. The lagoons required lining in order for them to be used as decanting tanks for a byproduct of bioethanol. The product, known in the area as “Burlanda Humeda”, is derived from Corn. Following storage in the lagoons, the substance will be removed and processed for animal feed.

The site is situated in a rural area with very difficult access. Due to transportation and site restrictions, CC was specified for the project, providing economic viability, ease of transportation to and on site, and proven ease and speed of installation. The works were carried out by Pronto Cemento for Alpasa.

Prior to the installation, each lagoon was re-profiled using a backhoe, with some manual ground preparation to create a flat surface on which to lay the material. Bulk rolls of CC5™ were delivered on a truck and transported to the lagoons using a digger.

The material was cut to required lengths and, starting in the middle of a longer slope, was deployed from the crest of the slope, with each additional length overlapping the last by 100mm. The leading edge of the material was pinned into pre-dug anchor trenches at the crest using 350mm ground pegs at every 500mm at the centre and through overlaps.

*Geosynthetic Cementitious Composite Mat

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Prior to installation, both lagoons were re-profiled then graded manually

CC was delivered to site on a truck and transported using a digger

CC was deployed down each slope and pegged in an anchor trench at the crest

Installation started in middle of long slope, working closewise

Overlaps were sealed using polyurethane sealant 3M 540

Sandbags were placed along joints while the sealant set

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Completed CC installation

Once the CC had been laid on one side, the overlaps were sealed using a polyurethane sealant to protect against ingress
. This process was repeated along the end and second side of the lagoon, before hydration was given. This method was repeated on the second lagoon.

Following the installation of CC in each lagoon, the remaining end slope, and the lagoon floor were covered using poured concrete to provide a surface for heavy traffic.

In total, 997m² of CC5™ were installed in 5 days by a team of 4, on a site with limited access and in temperatures of between 29-35°C. Some spells of rain were encountered during the course of the installation, but as CC can be installed in wet weather, the project was not affected.

The project was deemed successful due to the time and cost savings provided by the use of CC compared to any alternative methods. The client was surprised by the ease and speed of use of CC and the overall outcome of the installation. It was also noted that the delivery and transportation of the material was much more efficient in comparison to traditional methods, especially when the access restrictions of the site are taken into consideration.

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