CONCRETE CANVAS® USA

BERM LINING

Project Info

- 10 / 19 / 21
- CC5™ Bulk Rolls
- 105,485 sf
- Transverse layers
- Houston, Texas
- Providing erosion protection to berms and pond slopes.

Completed works

In October 2021, Concrete Canvas® GCCM* CC5™ was used to provide erosion protection to secondary containment berms and pond slopes at a storage facility in Houston, Texas.

Due to the site being susceptible to localized flooding during periods of rainfall, the client requested that CC be used to provide erosion control to slopes surrounding a pond and storage tanks. The CC5™ also provided and additional level of secondary containment for tanks adjacent to the pond.

CC5™ is a Type I GCCM as defined in ASTM D8364. It is suitable for use on soil subgrades and was chosen for this project to address the abrasion, wear and loading requirements. CC5™ is also BBA certified with durability in excess of 120 years when used in erosion control applications.

Before the installation of the CC5™ material, ground preparation needed to be carried out. Vegetation was removed and the slopes were re-graded. Voids created by the removal of vegetation and protruding rocks were filled, thus creating a smooth surface. Once the ground was prepared, anchor trenches were dug at the crest of the slope. Bulk Rolls of CC5™ were brought into place with the use of an excavator, un-rolled and cut to fit. The panels were installed transversely on the slope with the leading edge of the material secured with pegs within the anchor trench.

*Geosynthetic Cementitious Composite Mat

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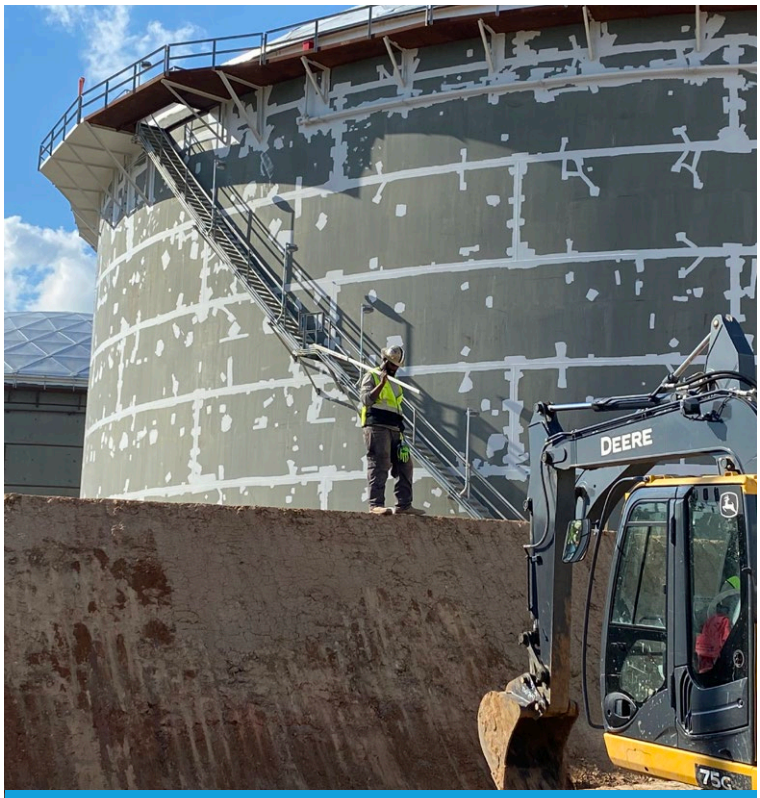
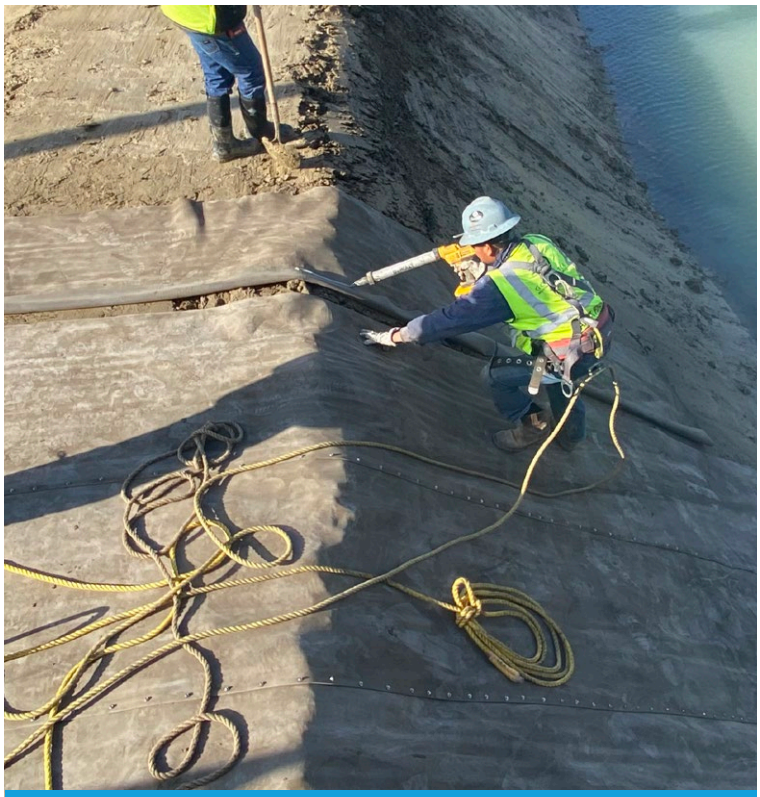


Slope re-profiled

CC5™ installed with a spreader bar



Overlapping CC5™ edges sealed with sealant

Overlaps secured with 1.25-inch self-driving stainless steel screws

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Completed slope protection works with overlaps secured with 1.25 inch screws

The adjacent layers of CC5™ were then overlapped with the edges secured with waterproofing sealant and 1.25-inch stainless steel self-drilling screws with neoprene washers installed every 4-inches. Once the layers were secured, the CC5™ was hydrated using a water truck and hose - with the material hydrated daily. When the material had been fully hydrated the anchor trenches were then backfilled to prevent any wind or water ingress under the material.

During the installation process, the site had a tendency to flood. Due to the slopes on the pond being steep - between 1:1 and 2:1 - it would cause the water levels to rise within the pond, leading the contractor to install CC5™ underwater.

While there were delays caused by rainfall, the installation took around 6 weeks to complete, with a team of 6 contractors installing 105,485 sf of CC5™. The project was a success with the client now implementing a second phase of works on the site.

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