



CASE STUDY:

ENCOUNTER BAY SWALE LINING

ENCOUNTER BAY, SOUTH AUSTRALIA
DECEMBER 2018

CONCRETE CANVAS®

Concrete Canvas is a flexible, concrete impregnated fabric that hardens when hydrated to form a thin, durable, water proof and fire resistant concrete layer. It is the original concrete on a roll.

Concrete Canvas allows concrete construction without the need for plant or mixing equipment. Simply unroll and position Concrete Canvas, and then just add water (any type of water, including sea water).

Concrete Canvas has no impact on the pH of runoff water. Concrete Canvas is widely used as a cheaper alternative to non-structural shotcrete.

Concrete Canvas is used in a variety of civil infrastructure applications, such as ditch lining, slope protection and capping secondary containment bunds.

The project came about due to complaints from residents suggesting that the existing unlined swale was flooding or soaking the adjacent properties. The soils in the region are typically sand and thus heavy flows were percolating from the swale into adjacent lots and forming unnaturally boggy ground. The council were looking at economical ways to protect against water ingress with limited access for construction equipment.

Geofabrics were contacted about Concrete Canvas as an option but little was known about the product by the client. Geofabrics provided recommendations on the grade of Concrete Canvas (CC8) as well as installation advice.

The major benefit of the product was that it would provide a cost effective, durable and impermeable barrier to lateral ingress of stormwater into adjacent properties. Access with a concrete truck would have been very difficult and resulted in a far more expensive process.

The one concern was that the smooth finished surface would only speed the flow of water and thus create other headaches further down the channel. As a result, the design incorporated small rock laid on top of the Concrete Canvas to slow the flows.

Another method that can be considered to slow the flow is to install cement stabilised sand bags as baffles below the Concrete Canvas. When dry, they conform to the surface and when saturated, cure to form hard baffles. The Concrete Canvas will conform to the undulating baffles below.

> Encounter Bay Swale Lining



During laying of Concrete Canvas.



Laid Concrete Canvas prior to hydration.



During laying of Concrete Canvas viewed from the top of the swale.

The finished result looks great with the product having been covered with rock. The council are very pleased with the result with the outcome protecting the surrounding properties from moisture ingress and potential structural related issues.



Hydrated and finished Concrete Canvas swale lining.



Completed project covered in rock to slow water flow.