



constructive solutions

Schofields Railway Station Substation

Schofields, NSW

CUSTOMER SECTOR Transport for NSW Rail

PRODUCTS

- Fosroc Proofex Engage
- Fosroc Proofex Engage accessories



THE PROJECT

Schofields is located in the rapidly expanding North West region of Sydney and is serviced by the Richmond railway line, which links the area to the Sydney CBD. Over the coming decades, an extra 200,000 people will move into the region, increasing the population to over 600,000. To cater for this expansion, the NSW State Government initiated the Richmond Line Duplication Project. As part of this project the existing Schofields Railway Station was relocated. This involved the construction of a new station including lift access, 230 car spaces, a bus interchange, as well as an upgrade to the electricity supply and substation.

There were several key requirements for this project:

- To keep the substation structure completely dry above the anticipated flood level to protect the important electrical substation components, which are crucial for the functioning operation of the railway line.
- To ensure the waterproofing integrity of the top of existing concrete piles under the structure. Due to the existing blinding slab and pile caps being poorly laid, it was impossible to terminate a traditional membrane onto existing piles, whilst waterproofing the top of pile caps, without significant rectification works.

THE SOLUTION

The contractor used 300m² of Fosroc Proofex Engage to waterproof the substation floor slabs, upturns, and the top of pile caps. The membrane was placed over the existing blinding slab, and then detailed using compatible jointing ancillaries. Reinforcing steel was then placed, and the concrete floor of the substation poured directly over the membrane.

The unique mesh design of Fosroc Proofex Engage gives a permanent tenacious mechanical bond to freshly-placed concrete. This bond is not dependent on any chemical reaction and can be assured each time concrete is cast.

THE BENEFITS

The benefits of using Fosroc Proofex Engage for this application included the ability to provide a watertight structure through encapsulation, whilst being able to detail and waterproof the concrete piles below, which is unachievable using traditional membrane technology. Fosroc Proofex Engage provided a simple, effective long term solution, and also saved the client from carrying out expensive and time consuming rectification works to resolve site issues.

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