GEOFABRICS CASE STUDY

GEOSYNTHETICS STRENGTHEN NEW COMMUNITY SPORTS FIELD

PRODUCTS USED

Presto Geoweb® Cellular Confinement Geocell System

- Made from robust UV resistant high-density polyethylene (HDPE), the system contains a network of interconnected cells that confine and compact soil
- Quick installation through the use of patented ATRA clip connection system or high strength tendons, saving on installation costs
- Eco-friendly soil stabilisation solution that blends into the natural environment
- Reduces the thickness of structural support elements by 50% or more

Solmax Mirafi® RSi Multifunctional Woven Geotextile

- Made from high-tenacity polypropylene filament, it delivers superior reinforcement strength and soil interaction by simultaneously allowing high water flow and soil retention
- Material cost savings of up to 33% by reducing the amount of base material required
- Excellent soil and base course confinement resulting in greater load distribution
- High permeability with efficient release of pore water pressure which makes it suitable for installation over soft wet soils

PROJECT DESCRIPTION

The Western Lawn at Footscray Park serves as an open space for festivals and events, dog walking, community sport, cycling and other recreational activities.

As part of broader upgrades to the area, the Footscray Park Western Lawn project involved the construction of a new sports field. The site presented challenging ground conditions, including soft subgrade soils with a California Bearing Ratio (CBR) of approximately 1%, excess surface water, and ground heaving under the weight of construction vehicles.

These conditions posed significant challenges in achieving a stable pavement structure capable of supporting anticipated loads without requiring excessive pavement thickness. The primary objective was to stabilise the subgrade to ensure the successful construction and long-term performance of the sports field infrastructure.

OUR SOLUTION

Geofabrics delivered a geosynthetic solution to improve the site's ground conditions and provide reliable pavement stability under heavy loads. A 100 millimetre Geoweb cellular confinement geocell system was used with Solmax Mirafi RS380i multifunctional woven geotextile to reinforce the subgrade, effectively distribute loads, and retain the original pavement thickness.

Mirafi RS380i was laid directly over the subgrade with overlaps installed in accordance with the manufacturer recommendations. This was followed by the placement of Geoweb 30V4 geocell, which was then infilled with drainage aggregate before the upper pavement layers were constructed.

Completed in 2024, the project saw geosynthetic solutions successfully installed over more than 1,000 m², ensuring the long-term durability and performance of the sports field.

GEOFABRICS®
Sustainable solutions

Reinforces
soft subgrade

1,000 m²
sports field stabilised

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