

Case Study

Sport and Play



Project

Drainage system for new Sports Pitches and Ball Courts

Client

Royal Holloway University

Designer

MUGA UK

Contractor

S & C Slatter

Products

Permavoid Sports

Royal Holloway University is a research university located west of Egham, Surrey with approximately 8600 students from over 100 countries.

The development comprises a new car park, basketball court, tennis courts and all weather hockey and football pitches. The development consists of approximately 20,000m² of hard standing and new porous sports surfacing's.

Part of the site sits within the 1 in 100 year flood plain of a nearby water course and a Sustainable Drainage System (SuDS) was required to reduce the impact of the development on the natural water environment. The chosen solution was to design the sports pitches in such a way so as to attenuate the rain water within the aggregate sub-base of the pitches. Rainfall falling on the sports pitches percolates through the porous surfaces into the open voided aggregate sub-base below.

A series of Infra Green Permavoid Sports conduits are located within the aggregate layer to diffuse the water and impermeable check dams have been used, splitting the pitches into small catchments to ensure that water is evenly distributed throughout the pitches.

A key benefit of the design approach is that the storage within the system is very shallow, removing the need for pumping and reducing the amount of time that the drainage system is locked whilst the nearby brook is in its flooded state. The design spreads the water storage throughout the entire development and this ensures that the areas above the flood zone will still attenuate and operate effectively even when the brook is at its 1 in 100yr flood level.

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