

Case Study 05

Bristol Airport Car Park

February 2015

Location

Bristol International Airport car park
Bristol

SuDS Used

Permeable paving and swales

How it works

The new valet car parking provides 10,000 square metres of additional parking with space for up to 1,000 vehicles. All surfaces are covered in permeable paving using the Netpave 50 system discharging into swales.



Specific details

The surface is Netpave 50 flexible surface filled with aggregate and bedded on 20mm of the same aggregate. This sits on a geo-textile layer which separates it from a very porous sub-layer consisting of 5-45mm stone. The bottom layer is another geotextile layer and the whole system is contained in an impermeable membrane. Surface water runoff is directed to perforated pipes bedded into the sub base layer; these connect to a silt trap, and then to swales for final treatment and dispersal. Netpave 50



consists of 500mm square clip-together pavers which can be filled with gravel or a growing medium and then seeded.

Design and Construction

SuDS was required because the site is situated on top of a local aquifer. The permeable paving filters out the pollutants within the runoff.

Benefits and Achievements

The Netpave 50 system was faster to install than a traditional car park and cost savings were made as there was no need for petrol interceptors.

Challenges

The system was considered less suited for public areas due to the potential for trip hazards. Other systems could have been used in public areas.



Maintenance

9 years after Phase 1 was completed the system is working efficiently with little to no maintenance required.

Team and Details

Design and construction – Bristol Engineering Consultancy (Bristol City Council)

Completion Phase 1 completed April 2005, Phase 2 begun January 2008