SuDS Permeable Paving

Access Roads, Truckcell, Battery Energy Storage Facility, Salisbury, UK

CASE STUDY

Project Information

Client	SSE Renewables
Consultant	AECOM
Contractor	JJ Mac Ltd
Products	Truckcell 80 Heavy Duty Porous Paving
Quantity	8,500 m²
Benefits	• Enables heavy rainfall to drain directly into the sub-base and subgrade • Restricts surface water run-off (SuDS) • Suitable for use on contoured land

Project Description

Battery Energy Storage Systems (BESS) are an effective way to store energy from renewable sources including solar and wind power. BESS uses advanced power conversion technologies and intelligent management systems to capture energy when it's abundant and release it to the grid when demand is high. The Salisbury battery storage system project is SSE renewables' first location, with construction of 26 battery units capable of storing up to 100MWh of energy.

The Challenge

As part of the Salisbury storage station construction there was a requirement for new access routes for light and HGV vehicles to undertake maintenance and transformer replacement. In line with the client's sustainability criteria a grass surface finish was required, along with a SuDS permeable paving solution capable of bearing heavy loads.

The Solution

The maintenance route was 1.8 kilometres in length and followed a contoured route through a sloping natural valley between farmland and protected natural environments. Truckcell 80 proved to be the perfect paving system for this requirement. The specification of a grassed finish enabled local topsoil from site excavations to be reused as paving fill, before grass seed was then applied. Truckcell can also be installed on gradients up to 12% (1:8) for vehicular traffic applications.

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The Truckcell road build-up structure included an angular gravel bedding layer, DTp Type 3 low fines, free-draining sub-base, two layers of ABG's Terrex NW9 non-woven geotextile with zero break-through head for filtration and separation, and Abgrid 30/30 geogrid for structural sub-base stabilisation.

Truckcell 80 heavy duty recycled permeable paving system provides a low carbon, sustainable solution for this type of application, enabling surface water to drain directly into the sub-base and subgrade without surcharging local drains with surface water run off (SuDS). It is manufactured from 100% recycled and recyclable plastic, designed to deal with slow moving and turning HGV loads up to GVW 60 and 10 tonne single wheel loads. It can be filled with angular gravel for frequent trafficking or grass finished (as in this application) for less frequent traffic movements.

ABG's Truckcell 80 heavy-duty recycled permeable paving system installed to provide a durable, free-draining and long-term sustainable surface for this access route.

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