592m³ EcoBloc Maxx Kingsmead Car Park, Stafford

Case Study

BACKGROUND

Kingsmead car park in central Stafford is located next to wetlands and sits partially on top of a natural flood plain. It was previously home to a council -run sports complex and swimming pool. After it was demolished, the car park was acquired by private investors, who earmarked the site for a new superstore. Kingsmead had fallen into general disrepair and was in need of extensive upgrades to bring it up to the required standards. These included resurfacing with new tarmac and introducing new kerbing throughout, both of which would increase run-off rates during heavy rainfall - and, in turn, heighten flood risk. As such, it also needed an efficient, reliable drainage and flood management solution.

SOLUTION

Kingsmead's new flood management system needed to comply with Stafford Borough Council discharge criteria of no mre than 155 l/s, and a maximum outflow rate into the adjacent drainage field of 240 l/s. Because of the car park's position on top of a flood plain, the tanks also had to be no deeper than 1,200mm below finished levels. Designs specified that a complete, two-tank stormwater attenuation system was needed. After confirming the required volume capacity, AD Bly passed the designs to the GRAF UK tmeam, who proposed 592m³ of EcoBloc Maxx modules. AD Bly then carried out all necessary groundworks, before GRAF UK's expert installation team was called into fit the system.

RESULTS

The GRAF UK system is surrounded by an impermeable geotextile membrane, so no water can escape unchecked. The larger of the two tanks discharges water at a rate of 125 l/s, while the smaller one does so at 30 l/s - ensuring the overall discharge rate stays within the 155 l/s limit at all times. This, combined with a discharge rate of 85 l/s from the area of the car park that sits on the existing flood plain, makes the overall outflow rate into the adjacent drainage field 240 l/s: exactly in line with local authority parameters.

"One of the major reasons we used GRAF and their EcoBloc modules for this project is that the cells are stackable, so come to site 'flat-packed' - keeping transport costs and emssions down. Importantly, we'd also worked with GRAF before, and knew we could rely on the quality of its products and workmanship. Now that the system is hidden beneath the brand new car park, you wouldn't know it was there at all. It does the job it's supposed to do unaided." **David Romani, Project Manager at AD Bly**

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