Innovative DESIGN ENGINEERING by Makers ensured the commercial viability of the refurbishment of Bedford’s Allhallows multi-storey car park.

The successful 10 year ‘Parking Charter’ between Bedford Borough Council and Makers Construction saw the Allhallows scheme at the heart of the town’s £8.8m gateway regeneration project.

The multi-storey car park was suffering from significant repair issues estimated to be in the region of £1.5m and at the time of contract award, Makers was tasked with reducing the overall repair cost by at least 25%.

Makers employed a series of innovative techniques which resulted in a cost reduction to below the required 25% as well as being able to offer the partnership a fixed price lump sum for all the structural repairs.

Allhallows was subject to a full repairing refurbishment including lighting, new lifts and the introduction of a 43MW photovoltaic generating system on the exposed top deck.
CASE STUDY
Cost Savings through Value Engineering

• EMAD (Electro Magnetic Anomaly Detection) was used to identify & map the break locations in the steel reinforcement, pinpointing required areas of repair and additional steel reinforcement without the need to excavate all joints throughout the structure.

• Repair Design - Makers' innovative design approach included the installation of new steel rods across the top of daywork joints to increase the bearing capacity of the structure.

• Corrosion Control - The use of a migratory corrosion inhibitor has protected the areas subject to anodic reaction following the repairs.

• Cost Savings through Value Engineering achieved cost reductions & improved quality including saving £211,000 on cladding & curtain walling & £101,000 on lift improvements.

• Re-designing to Add Value: Changing the entire top deck to photovoltaics increased power generation capacity to 43MW and also saved £35,000 by not having to install new handrails and additional security barriers, all leading to reduced investment payback time for the power generating equipment.

• Design with Versatility for Change of Use: A totally secure free-standing solar power generation station on the entire top deck can be re-located for future use should parking capacity increase.

Association Membership
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