

STRUCTURES CASE STUDY

Full Car Park Refurbishment and Structural Repair

MAKERS

...makes the difference

PROJECT

Grand Arcade, Cambridge

STRUCTURE

Multi-Storey Car Park

CLIENT

Cambridge City Council

CONTRACT TYPE

Main Contractor

CONTRACT



The Grand Arcade was part of a major refurbishment project across three different multi-storey car parks within Cambridge City.

The Grand Arcade had been in service for 10 years and showing signs of deterioration. The parking environment was not reflective of the Council's Flagship facility and access point to the City.

The car park had issues which affected not only the operation but also parking capacity which was crucial to the Council as it affected not only reputation but also revenue stream.

The repairs and refurbishments were designed on the requirements of the Cambridge City Council, with specific repairs to improve drainage to ramps and parking deck areas.

The project required the design of additional drainage to be incorporated to mitigate ponding and included the full refurbishment of the car park decks, access ramps and the stair wells.

A principle requirement for the operator was for the works to be undertaken with the minimal disruption to both the operational use and overall capacity of the car parks.



Before



After

T : 08458 994444

F : 01543 480676

E : enquiries@makers.biz

W : www.makers.biz

Makers Office Building 4,
Shenstone Business Park
Lynn Lane, Shenstone, WS14 0SB

Registered in England No: 6348341 Registered Office as above

Association Membership



Accreditations



CASE STUDY

Structural Refurbishment and Repair

MAKERS

...makes the difference



Before



During



After

The original construction meant that slab falls were inadequate. The installed outlets were higher than the slabs so water couldn't drain and falls were created without the necessary outlets. Design of the slab configuration meant that water run offs and flow points were not understood. Acco drains were butt jointed in sections and the seals had moved over time and were leaking into the structure. The ponding was so deep that in times of frost the exposed decks had to be cordoned off and closed due to the risk of customers slipping and vehicles sliding. Water was saturating the concrete substrate putting it at risk and the Council were losing revenue as well as being subjected to third party claims.

In order to alleviate the ponding the rainwater was used to identify high and low spots, natural run offs and holding points. We adopted several techniques to create falls. We placed in additional outlets, made runs within the substrate and lowered the originally installed outlets as well as waterproof the acco channels and extended them beyond the ramps to prevent run off down the ramps.

Existing coatings were removed, and decks were planed, blasted and tested prior to application. Then repaired and primed, pretreating and reinforcing any cracks.



After



After



After

Ramps and turning circles and other high impact areas were designed with an enhanced and increased aggregated and thicker system to combat the additional forces exerted in these areas. The Customer Interface Areas required dedicated walkways, pedestrian crossing zones and clearance areas. Clear direction and driver instructions were installed to allow easy transition through the car park.

For the deck membranes a Triflex PMMA Solution was used with deck coatings comprising of corresponding gray colours RAL 7043 & RAL 7037. The systems are UV stable and come with a 10-year warranty against wear.

The white soffit anti-carbonation coatings provide a reflective surface to maximise the potential from the new LED system, creating a brighter parking environment whilst at the same time reducing the power consumption and carbon footprint of the car park.

T : 08458 994444
F : 01543 480676
E : sales@makers.biz
W : www.makers.biz

Association Membership



Accreditations



Makers Office Building 4,
Shenstone Business Park
Lynn Lane, Shenstone, WS14 0SB

Registered in England No: 6348341 Registered Office as above