## Structures and cark park

## Rev Volker Laser

## Wolverhampton Civic Centre MSCP

As part of Wolverhampton Civic Centre's £18m refurbishment, VolkerLaser provided innovative repairs and cathodic protection for its multi-storey car park. Our phased approach included concrete repairs, 12,500m<sup>2</sup> of deck waterproofing, and aesthetic enhancements with anti-carbonation coatings and colour bands.

Most impressively, our expert team pioneered the design and installation of an impressed current cathodic protection system known as Zebra. Although the system has had extensive use in the severe climatic conditions of Scandinavia and Northern Europe, this was the first time the innovative permanent protection method was used in the UK.

The Zebra system is a result of improvements on conventional anode systems, comprising titanium ribbons and meshes, which are often weak in the areas of embedding and bonding mortar. The integrated power distribution ribbon distributes current evenly in the conductive Zebra coating, which is applied in the system's signature black and white stripes, providing aesthetic benefit.

We undertook extensive trials to ensure compatibility of the system, before overcoating with Stirling Lloyd Decseal. Our development of the design of this remedial solution has been significant, having been involved with the scheme for approximately three years. Our site team overcame environmental challenges during the project with quick thinking. The region experienced a heavy downpour of rain during the works, which caused excessive flooding to the basement level of the car park, meaning that it couldn't be accessed due to the damage.

We reached a solution by pumping the excess rainwater away and re-treating the car park effectively. Another challenge our team had to overcome was to minimise noise pollution generated by the works. The team overcame the challenge by installing temporary roofs over the site, as well as ventilation ducts surrounding the car park.

The team completed all works on time and to budget, giving the once tired car park a new lease of life, as well as developing walkways for pedestrians, extra disabled parking, motorcycle areas and bicycle spots.

