Repairs

Cathodic Protection

Hunters Bridge Multi-Storey Car Park

FREYSSINET
SUSTAINABLE TECHNOLOGY

Client
Welwyn Hatfield Council

Principal Contractor
Stonecare Limited

Consulting Engineer
FaberMaunsell

Contract Value
£150,000

Contract Duration
12 months

Completion
July 2005

Hunters Bridge Multi-Storey Car Park is an important parking structure in the centre of Welwyn Garden City. It is constructed of reinforced concrete columns and decks.

De-icing salts brought into the car park by vehicles had resulted in chloride ingress into the reinforced concrete decks. The chloride ions had resulted in reinforcement corrosion that caused spalling of the concrete.

FaberMaunsell, acting on behalf of Welwyn Hatfield Council specified an impressed current cathodic protection (CP) system to be installed after structural repair. Cathodic protection is an electro-chemical technique, now commonly used to prevent corrosion of reinforcement, irrespective of the level of chloride in concrete.

The CP system selected utilised a conductive coating anode system, applied to the soffit of the car park decks. This is a graphite-based paint, with current fed by 0.3mm wires embedded in the coating. The anode system is over coated with a white decorative topcoat to produce a good aesthetic finish.

Stonecare Limited selected CCSL as their cathodic protection provider. CCSL supplied all specialist materials and technical resource to assist in system installation.

Reference electrodes are installed in the concrete to monitor the performance of the system in accordance with the European Standard “Cathodic Protection of Reinforced Concrete”.

A remote monitoring and control system is provided so that system analysis and adjustment can be undertaken via a modem link.

The project was completed in July 2005 and the CP systems successfully commissioned.

1 Application of conductive coating anode system

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