



## Bridge Deck Strengthening & Concrete Repair

### M5 Northway Decks

**Client**  
Highways Agency

**Principle Contractor**  
Amey

**Value**  
£1,000,000

**Contract Duration**  
25 weeks

**Works Completed**  
January 2011



Freyssinet Limited was appointed to carry out strengthening works to the decks of two bridges situated to the north of Junction 9 of the M5 motorway near Tewkesbury.

Northway Lane Bridge and Northway Back Lane Bridge structures both have a continuous four span voided reinforced concrete deck supported on slender columns. These columns were recently strengthened and further works were considered necessary to strengthen the bridge deck on each structure also.

Freyssinet Limited were responsible for all associated works on site, including site set up, traffic management and the installation of scaffold platforms to allow the works to be completed safely.

The scope of works involved the installation of additional shear reinforcement in the form of vertical stainless steel dowel bars in the ribs of the decks.

Initial surveys were carried out by Principle Contractor Amey to identify and locate the upper and lower steel reinforcement materials and allow the position of the voids to be marked out on the soffit and deck prior to drilling. Voids within the deck were also established by drilling 250 trial holes.

Cores were drilled at the marked locations and approximately 700no vertical bars were then installed and the holes grouted to seal the bars and provide a bond between the bar and the existing concrete.

This contract forms part of the Construction Management Framework for the Highways Agency Area 9 and 10.

The CMF is a collaborative approach to maintaining £75billion worth of assets for HA in these areas over the next 4 years. It consists of a number of different contractors from different specialist areas who work together to deliver network improvement and maintenance schemes on the all purpose trunk road and motorways in Area 9 and 10.

Following a comprehensive application process, Freyssinet Limited was selected as the specialist contractor for Concrete repairs and Cathodic Protection (in a joint venture with their sister company Corrosion Control Services Limited).

The CMF began in January 2010, and the contract will run for 4 years with a possible 2 year extension.

- 1 Drilling cores in the bridge deck
- 2 Installing the stainless steel dowel bars
- 3 View of the soffit
- 4 The holes were grouted to seal the bars

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