

## Clifton Bridge, Nottingham



Clifton Bridge carries the A52 over the River Trent near Nottingham. The two bridges each carry one carriageway of three lane traffic.

### Strengthening by addition of external post tensioning inside the bridge

Clifton Bridge near Nottingham carries one carriageway of the A52 over the River Trent. The bridge has an overall length of 240m and is formed of two hollow section post-tensioned reinforced concrete end spans with a central deck supported on half joints.

Assessment of the structure following principal inspection revealed the requirement for strengthening of the end spans. This was effected by the application of additional post tensioning using an external post tensioning system. This was the first project of its' type in the UK.

The post tensioning was installed principally within the restricted space of the box sections and the bridge remained fully trafficked throughout the project. Over 42km of tendon was installed and stressed and the system has been designed to allow monitoring and re-stressing of the tendons should the need arise.

The access within the box sections was severely restricted and two redundant gas

Client	Notts County Council
Consultant	Notts County Council
Principal Contractor	Balvac
Value	£700,000
Programme	22wks, completed Nov 1997



42km of tendon were installed in the box sections of the bridge

mains had to be removed as part of the project.

The anchorage and deviator blocks had to be cast in situ within the bridge where headroom reduced to less than 0.9m in places.

The voids inside the bridge deck were defined as confined spaces, necessitating rigorous safety procedures.

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