

Project Profile

Laverock Hall Underbridge Cramlington, UK



Client: Northumberland County Council

Project timescale: 2006

Structure: Dual Carriageway Overbridge

CPT Products used

- Duoguard 500
- Duocrete SD Mortar
- MN15 Reference Electrodes
- GAN1 Monitoring System



Laverock Hall Overbridge was suffering typical corrosion problems associated with leaking bridge deck joints, exhibiting significant concrete spalling as a result of chloride induced steel reinforcement corrosion. Deterioration of the beams was visible due to the corrosion activity and technical analysis showed chloride levels in the concrete were likely to lead to further corrosion problems.

Northumberland County Council were keen to have a low maintenance, long term solution to their steel reinforcement corrosion problems. Duoguard 500 was therefore applied to the beams and abutments which were significantly chloride contaminated.

As the Duoguard 500 installation does not require extensive connections to permanent power supplies, it was possible to stage the installation to meet the contractor, Carillion, requirements to maintain traffic flow.

A limited number of the supporting pier columns were found to be contaminated with chloride salts. Duoguard 500 has the facility to allow treatment to be targeted to specific areas of a structure and as a result only a limited number of columns had to be treated with a result that the client obtained a more cost effective structure repair.

Northumberland County Council has an obligation to maintain a number of structures distributed over a wide geographical area. Concrete Preservation Technologies fabricated and installed monitoring equipment and measurement probes which were installed on the bridge to allow remote monitoring of Duoguard 500 performance and the corrosion condition of steel in the bridge. Results obtained from the monitoring system thus far indicate a potential lifetime of the Duoguard 500 units of 50+ years



Duoguard 500



MN15 reference electrode

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