

Vector™
Norcure® Chloride Extraction
Project History

**Iowa DOT Substructure Chloride Extraction
Council Bluff, Iowa**



Structure: Iowa 192 Viaduct, Substructure
Treatment 18 Pier Bents, 2 Abutments

Location: Council Bluffs, Iowa, USA

Client: Iowa Department of Transportation

Area Treated: 18,000 ft² (1672m²)

Project Date: Phase 1: August 1998
Phase 2: July 2000

Contractor: Vector Construction Inc.
Fargo, North Dakota

Project Description:

Failed expansion joints at every third pier bent on the Iowa Department of Transportation's structure 7801.1S192 of Iowa 192 viaduct became the source of chlorides leading to the contamination of all pier bents and abutments below the expansion devices. As a result of this contamination, the Iowa DOT chose this substructure to be the first in the state to be treated with the Norcure Chloride Removal System. The DOT chose Norcure ECE to verify the process as a more cost-effective alternative to conventional rehabilitation practices.

Project Solution:

The pier bents and abutments were repaired in the conventional way to eliminate the delaminated areas and spalling. Vector Construction Inc. worked as a subcontractor to install, monitor, and remove the Norcure Electrochemical Chloride Extraction System. Following the sixty day treatment, the system was removed and the pier bents were sampled and tested for post treatment chloride ion concentrations. The remaining levels of chloride ions were well below corrosion threshold. As a result, the Iowa DOT is in the planning stage to use the Norcure System on several other structures across the state.

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Patents: US 4832803, 4865702, 5015351, 5198082, 5228959, 5320722, 5407543, 5538619, 6027633, 6183624, 6254752, 6258236, 6322691

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