

Vector™

Norcure® Chloride Extraction

Project History

**City of Fort Dodge Substructure Chloride Extraction
Fort Dodge, Iowa**



Structure: Substructure Treatment

Area Treated: 2500 ft² (230 m²)

Location: Fort Dodge, Iowa, USA

Project Date: Summer 2001

Client: City of Fort Dodge,
Department of Public Works

Contractor: Vector Construction Inc.
Fargo, North Dakota

Project Description:

During the summer of 2000 Vector Corrosion Technologies and Schlotfeldt Engineering, Inc. teamed up to complete a condition survey on the 1st Ave Viaduct. The investigation focused on determining the cause and extent of concrete deterioration on the pier caps. It was evident that leaking deck expansion joints had allowed direct exposure of harmful chloride ions to all concrete surfaces below the failed joints. The result was severe chloride induced reinforcement corrosion on the piers as well as many prestressed concrete beam ends.

Project Solution:

The condition survey collected the data necessary to prepare a restoration strategy that would minimize future corrosion and meet the City's long-term objectives. The strategy adopted was the Norcure Electrochemical Chloride Extraction System. The Norcure system was applied to the entire surface area of all pier caps below expansion joints (where the chloride ion levels were determined to be well above corrosion threshold). After the treatment, additional chloride samples were extracted and tested to verify that the chloride ion concentrations had been reduced to below the corrosion threshold.

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

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