

**Vector™****Norcure® Chloride Extraction****Project History****Bridge Deck Chloride Extraction  
St. Adolphe, Manitoba**

- Structure:** St. Adolphe Bridge
- Location:** St. Adolphe, Manitoba, Canada
- Client:** Manitoba Department of Highways
- Area Treated:** 25,600 ft<sup>2</sup> (2380m<sup>2</sup>)
- Duration:** 2 months
- Contractor:** Vector Construction Ltd.

**Project Description:**

During the summer of 1998, the Manitoba Highways and Transportation, Bridges and Structures Branch and Canada Agri-Infrastructure Program (CAIP) elected to use the Norcure Electrochemical Chloride Extraction (ECE) system for a demonstration project. The structure selected for this project was the St. Adolphe bridge. This bridge is a vital link for local agricultural communities along the east and west bank of the Red River in rural Manitoba.

Although this bridge was generally in good condition, there were ongoing spalling and delamination problems on the deck and sidewalks due to chloride induced corrosion. Manitoba Highways wanted to perform a long term rehabilitation on the bridge to prevent future disruption and inconvenience to the local community.

The Norcure project was carried out in two phases to minimize disruption during the farming season. Phase 1 saw the north lane and curbs treated in late summer of

1998. Phase 2 saw the south lane and sidewalks treated in spring of 1999. During each phase, solar powered traffic signals were installed at each end of the bridge for traffic management. Prior to the installation of the ECE System, Manitoba Highways patched all spalled and delaminated areas.

During both phases of the project, the Norcure ECE System was installed in approximately two weeks; was left operating for eight weeks; and was removed in approximately one week. Core samples were taken and analyzed for chloride content before and after treatment. The results from these samples indicate that almost 84% of chlorides were removed from the 0"-1" depth, and almost 70% were removed from the 1"-2" depth. Manitoba Highways and Transportation were pleased with the results of the Norcure demonstration and recently performed Norcure on a bridge substructure. They are presently considering the Norcure System for future bridge deck rehabilitation projects.

4101 - 2009Apr01

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

Printed in Canada

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