



**Clockwise from Bottom Left**  
 A worker applies BD Multi-Use Primer™; Bridge Deck Membrane™ is applied to a thickness of 80 mils; Completed installation of the Integrated Ballast Mat™.

# CONSTRUCTION OF THREE BNSF BRIDGES

Riverside, California



**Articulus™ Expansion Joint Installation**  
 Workers install a section of the spray-applied expansion joint system.

Between March and October 2014, the Bridge Preservation™ spray applied ballast mat system and Articulus™ spray applied expansion joint were applied on three bridges as part of a Caltrans and BNSF project. This project replaces a single BNSF bridge over the I-215 freeway with three new bridges. The bridges were constructed offsite, waterproofed, and moved into place during pre-scheduled freeway closures.

**Project Information**  
 Project Number: 08-0M94U4  
 Owner: Caltrans/BNSF  
 Project Size: 20,500 SF  
 Approved Applicator: J. Francis Co., Inc.  
 General Contractor: Ames Construction, Inc.  
 Installation Date: March-October 2014

Because of the construction sequence, additional work such as walkway and guardrail installations, as well as additional torquing of bolts was required after the waterproofing and spray applied ballast mat installation. Caltrans and BNSF required a waterproofing and ballast protection system that was both easy and fast to install, allowing the spans to be waterproofed and returned to the bridge builders in a single day.

The installation began with application of BD Multi-Use Primer, followed by the application of 80 mils of Bridge Deck Membrane (BDM). The Integrated Ballast Mat™, which consists of a slow-setting spray applied membrane and granulated rubber, was then installed directly on the BDM. The entire application of the waterproofing system, including the spray applied ballast mat was completed in only seven hours on a 3,500 square foot span (including the ballast walls). This extremely fast turnaround allowed the spans to be returned to the bridge builders the following morning.



**Completed Joint Installation**  
 The completed expansion joint installation at the north abutment prior to placement of the protection plate.

Following the installation of the waterproofing, the I-215 freeway was closed and the 1.1 million pound spans were moved and lifted into place by the same company that moved the Endeavour space shuttle across Los Angeles in 2012. During these closures, Articulus™ expansion joints were installed at the pier and abutment joints. The Bridge Preservation™ waterproofing and joint products are all made from the same coating chemistry, ensuring complete compatibility between the expansion joint and previously installed spray applied ballast mat. The fast, easy to install Articulus™ expansion joints allowed ballast and track to be loaded just one hour after installation.



**Bridge Preservation**  
 SERVING THE RAIL AND HIGHWAY MARKETS  
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