Precast Column-Footing Connections for Accelerated Bridge Construction in Seismic Zones

Description

Meta Fields

Project Completion Year : 2013
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Key Words :

Bridge construction; Bridge design; Columns; Earthquake resistant design; Footings; Hinges; Precast concrete; Splicing

Abstract :

This project focused on developing and evaluating earthquake resistant connections for accelerated bridge construction (ABC). The project included testing five large-scale precast reinforced concrete column models, individual component tests on mechanical reinforcing bar splices, and extensive analytical studies. All column models were designed to emulate conventional cast-in-place. Results indicate that the new connections are promising and duplicate the behavior of conventional cast-in-place construction with respect to key response parameters. Results indicate that the newly developed ABC connections are suitable for moderate and high seismic regions. Emulative design approaches, however, are not suitable for all of the connections developed. A set of design recommendations is provided.

Subject : Grouted Couplers
Group : Seismic
Category : Completed Projects

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