

# **COLONIAL FOX THEATRE RESTORATION PROJECT**

Recognized for Excellence in the Repair of Special Projects – December 7, 2012 International Concrete Repair Institute – Great Plains Chapter



#### Structure characteristics:

The Colonial Fox Theatre is a historic structure that was constructed around 1920. Existing plans were not available at the time of the project. The area of structural concern was the deterioration of the first floor framing that supports the main lobby area. This area is constructed of reinforced cast in place concrete with a basement level below the lobby. The project began in mid 2011 and was completed in March 2012.

### Problems that prompted repair:

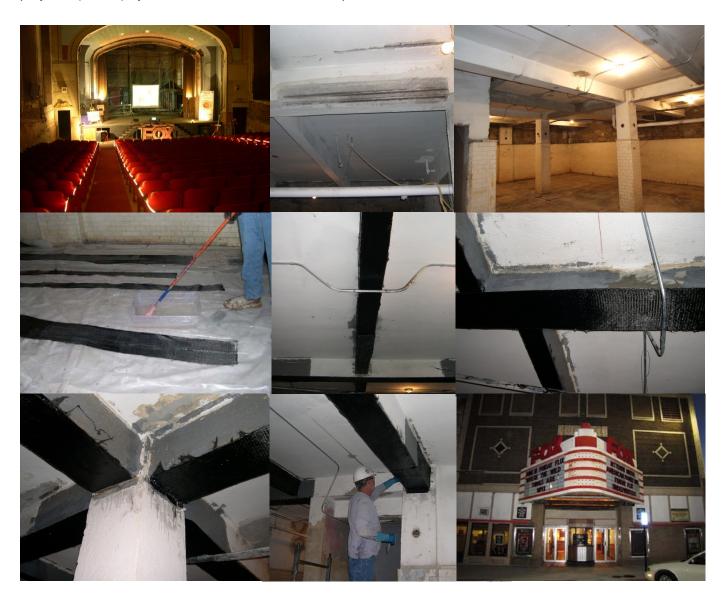
The Owners were concerned about the ability of the existing deteriorated floor framing to meet current code requirements.

#### Causes of deterioration:

The basement area had become wet and high moisture levels remained over extended periods of time. This prolonged exposure resulted in aggressive corrosion of some of the structure's embedded reinforcing steel, thus resulting in cracking, delaminations and spalling of many of the concrete floor beams.

### Repair system selected:

The deteriorated concrete floor beams were reinforced and strengthened with a carbon fiber reinforced polymer (CFRP) system after the concrete was repaired.



## Special features of the Project:

The project was a comprehensive restoration project of one of America's historical landmarks. It was successfully restored with structurally repaired load-bearing elements for the benefit of future generations to enjoy.