

Historic Resort Bridge Restored with FRP



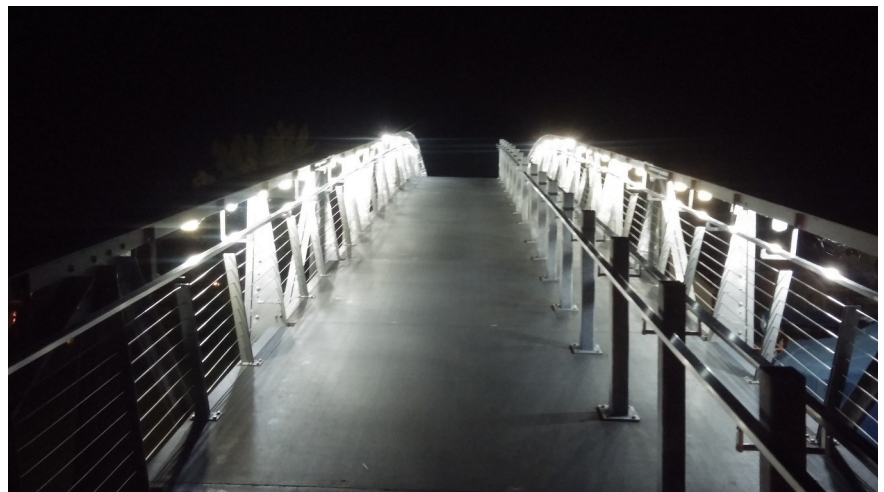
Sandy Beach Bridge at Indian Lake, Ohio

Composite Advantage's FiberSPAN Fiber Reinforced Polymer bridge deck technology brought a long anticipated restoration project to a successful close for Indian Lake's historic 1920s Sandy Beach Bridge. The pedestrian bridge was built to connect two sides of the Sandy Beach Amusement Park, but fell into disrepair in the 1960s. The original renovation design called for galvanized steel flooring with a non-skid surface. A committee, formed by the Indian Lake Area Historical Society, considered another option – CA's fiberglass composite bridge deck product. CA worked closely with the society to provide a low-maintenance, non-skid deck at a cost comparable to steel sheeting. The advanced technology of CA's FiberSPAN bridge deck meshed with the preservation of history with a low-maintenance, robust solution. The bridge re-opened to the public on August 23, 2014.

Before



After



Bridge History

Part of “Ohio’s Million Dollar Playground,” the Sandy Beach Bridge has been an icon for residents in and around Indian Lake and Logan County for nearly a century. Connecting pedestrians with both sides of the amusement park, bridge traffic came to a halt in the 1960s when the park fell into disrepair. Bill Reed purchased the property in 1981 with a vision to restore the area and the bridge to a relevant center of activity. The land was developed to support condominiums and retail. Initial work was also started on the bridge. Concrete abutments were rebuilt and painted to prevent further decay of the structure. The costs associated with updating the bridge to current building codes, along with the insurance needed to open the bridge to the public prevented Reed from re-decking the structure. After his death, the Reed family worked with the Indian Lake Area Historical Society to raise the necessary funds to complete the project and re-open the bridge in August 2014.



FRP Deck Details

Deck panels are 11 ft. 10 in. wide and vary in length from 7 ft. to 14 ft. 6 in. Lengths match the floor beams locations. The deck depth is 7.5 in. to allow the deck to meet the deflection requirement of $L/400$ for the longest floor beam span. Panel joints were adhesively-bonded ship lap joints because of the high camber of the bridge. A sliding expansion panel joint was used at the peak of the bridge. Live load requirement was 100 psf. Steel plate were embedded in the FRP deck for railing post attachments. Since the bridge is at a water recreation area, a small-grit, non-slip wear surface was used to be barefoot friendly.



Railing System

For safety and low maintenance, stainless steel cable railing was installed. An aluminum handrail was hung from the top chord beams of the bridge. To assist visitors walking up the high pitch of the bridge, an intermediate railing was added at a one-third spacing across the width. Embedded steel inside the deck panels provided attachment locations.



Introducing our Installation Partner: FRP Constructors

Composite Advantage has established partner company FRP Constructors LLC to provide critical on-site delivery and installation services for its Fiber Reinforced Polymer bridges and bridge decks for pedestrian, bicycle and trail applications. FRP bridges and decks are prefabricated and light weight so the products are straightforward to install. Since technology is fairly new to customers and contractors, there can be concerns about installation resulting in higher construction costs. This new company provides customers with the option to have experienced personnel to quickly and properly install the FRP bridge products. In addition to installation of FRP bridges and decks, FRP Constructors can perform abutment work, bridge erection, finishing work, repair of structures with FRP materials and helical pile installation.