



1993 – US 27 Bridge over Pitman Creek

Description

Meta Fields

Other Related Url 0 Other Related Link : <http://www.fhwa.dot.gov/bridge/prefab/videos.cfm>

Abc Construction Equipment : Conventional

Miscellaneous Prefabricated : CIP reinforced concrete closure joints; Prefabricated railing; Latex-modified overlay

Prefabricated Bridge Elements : Exodermic Deck

Project Delivery : Design-Bid-Build

Longitude : -84.6149979

Latitude : 37.003334

State Id # : 10000027B00032

Construction Equipment : Conventional

Total Bridge Length Ft : 700

Max Span Length Ft : 300

Beam Material : Steel

Spans : Three-span

Location : Urban

Owner : State

State : KY

Year Abc Built : 1993

Other Related Url : 1

Contract Plans : 1

Funding Source : Other

Costs : Not available.

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Construction Method : The exodermic replacement deck consists of a 4.25-inch-thick steel grid with 4-inch-thick precast reinforced concrete composite topping. The plans required that the grid be produced by a member of the Bridge Grid Flooring Manufacturers Association licensed to produce exodermic bridge decks. The steel grid was galvanized in accordance with ASTM A123, and the steel reinforcement was epoxy coated. The concrete was cast on the steel grid and fully cured prior to placement of the grid deck. The Kentucky Transportation Cabinet opted to replace the existing 33.2-ft wide bridge deck during nighttime hours, keeping both lanes open during the day and one lane open at

night. Traffic was routed to one lane at 6:00 pm and opened back to both lanes at 6:00 am. The slab between floor beams (spaced at 25 ft) was removed and replaced with the full-depth deck panels. Using high-early-strength concrete allowed the joints between deck panels to be poured and opened to traffic the next morning. Precast New Jersey barrier railing was attached, and a latex-modified concrete overlay was placed.

Existing Bridge Description : The two-lane bridge is heavily used by vehicular and truck traffic and provides a major north-south road for the area. Its deck was deteriorated and required replacement.

Traffic Management : Traffic management alternative, if constructed conventionally: extended detour

Average Daily Traffic At Time Of Construction : 25000

Dimensions : 700-ft long and 36.3-ft wide three-span continuous deck truss bridge (200 ft – 300 ft – 200 ft)

Primary Drivers : reduced traffic impacts due to modular construction; improved site constructability due to lighter deck weight with less dead load on the truss

Impact Category : Tier 1 (within 1 day)

Mobility Impact Time : ABC: overnight deck replacement over multiple nights with one of two lanes kept open; Conventional: months

Project Location :

Somerset, in Southern Kentucky