Poplar Street Bridge Project

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Area Engineer
• Nov. 9, 1967
• Carried I-55, I-64 & I-70
• 126,000 veh/day
Poplar Street Bridge

Congestion

Safety

Condition
Improvements
Overlay

• Critical Functions
• Driving Surface
• Contributes to stiffness of deck system
Overlay Options

- 2.5” Epoxy Asphalt Concrete (EAC)
- 2.5” Polyester Concrete (PC)
- 2.5” Steel Fiber Reinforced Concrete (SFRC)
- 4” Lightweight SFRC with reinforcing layer & welded stud connection
Surface Preparation
Corrosion Protection

- Thermal coating
  99.9% Zinc
Shear Studs

- 550,000+ studs on deck
- 10,500+ wall studs
Steel Fiber Reinforced Lightweight Concrete

- 4-in. thick
- 196 lbs fiber/yd³
- 120 lbs/ft³ max. equilibrium density
- 6,000 psi design strength
- 800 psi flexural strength
- 425 psi splitting tensile strength
Total Bent Replacements
Substructure Repairs
Bearing Replacement

- Existing Roller Bearings
- New Seismic Isolation Bearings
WIDENING THE POPLAR STREET BRIDGE

Missouri and Illinois are looking at adding a fifth eastbound lane to the Poplar Street Bridge. The $21 million project would ease commuter traffic.

View toward Illinois from Missouri

1. The gaps in the concrete support structure are filled in.
2. The support is also extended to hold the bridge girder in its new position.
3. The eastbound bridge slides over 9 feet.
4. The bridge deck on the eastbound bridge is expanded to accommodate a fifth lane.
Flood Wall Modifications
Pier 5 Extension
Median Removal
Slide Details

• 6 piers – simultaneously
• 2,165’ long
• 54’2” wide
• 20.4 million pounds
Track System
The PSB Slide
Joint Replacement
Infill Steel
Questions?

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