



# Simple for Dead, Continuous for Live Designs: Fixing Access to Rural Missouri (FARM) Bridge Project

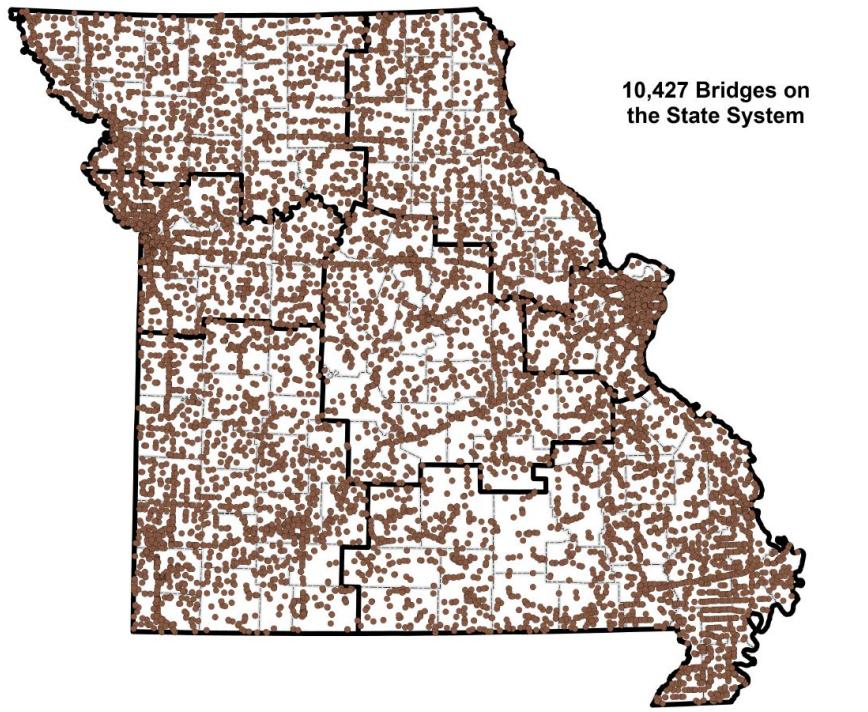
Presented to Short Span Steel Bridge Alliance  
Summer Webinar Series: Steel in Action  
July 17, 2025

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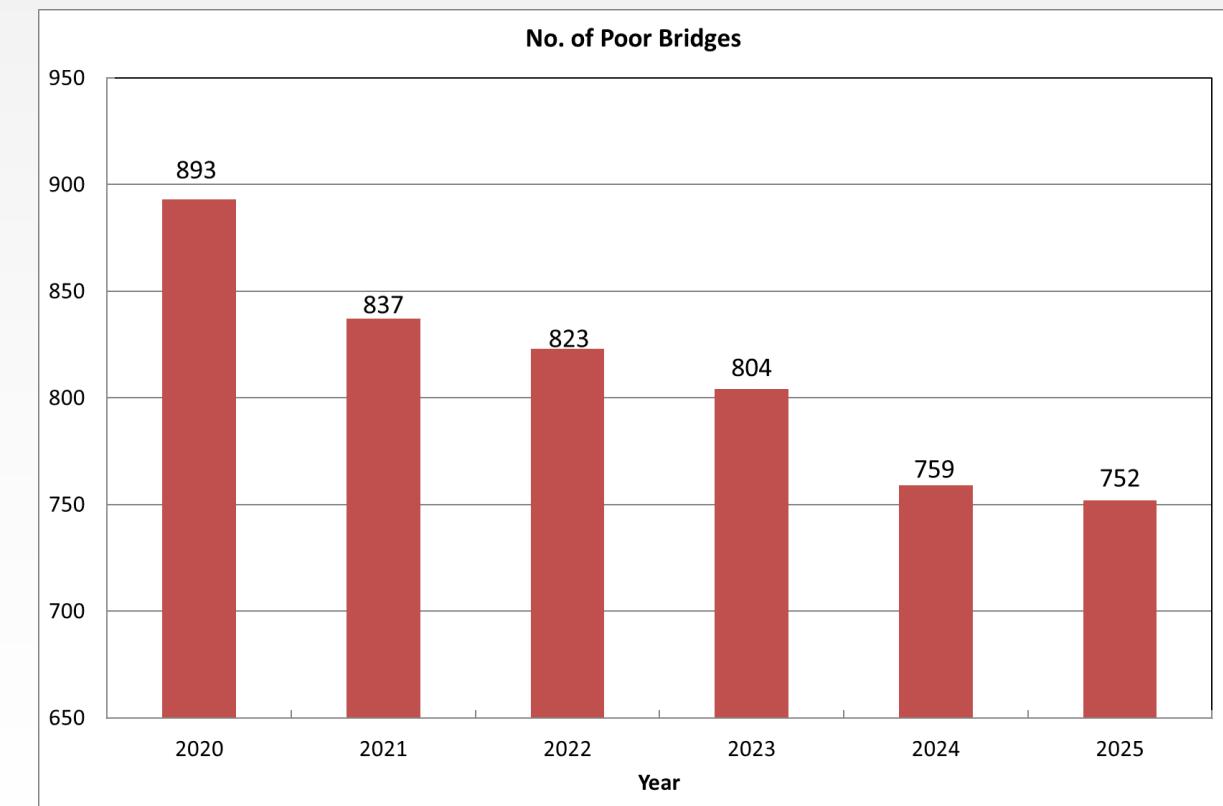
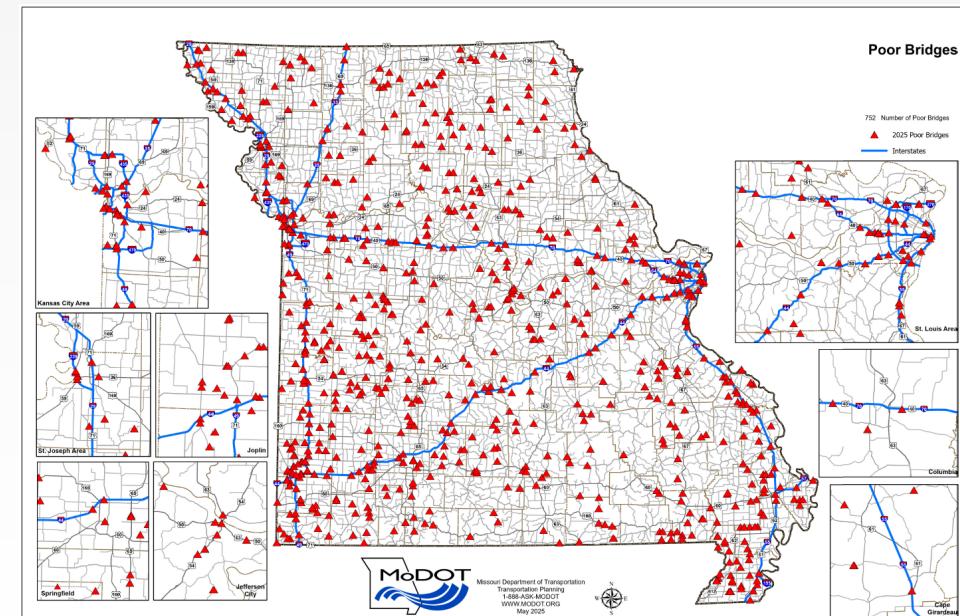
# Presentation Topics



- Missouri National Bridge Inventory
- Missouri's use and history of design-build
- Why bridge bundling and summary of previous projects
- Specifics of Fixing Access to Rural Missouri (FARM) bridge project
- Additional Simple Dead, Continuous Live, (SDCL) projects
- What's next?



Based on 2025 National Bridge Inventory (NBI) submittal



# History of Design Build Law



- First allowed in 2004 with MO Statute: Section 227.107
- Expanded in 2012
- Limited to 2% of # of STIP projects per fiscal year
- Must pre-qualify (Use 2-phase procurement)
  - Request for Qualifications (RFQ)
  - Shortlist no more than 5
  - Request for Proposals (RFP)



# MoDOT's Design-Build Program



- 31 Awarded contracts worth over \$4.7 billion
- 9 under contract and in procurement worth over \$2.5 billion
- 8 Design-build bridge bundles that improved over 700 bridges
- Fixed price best value approach has helped realize an additional 35 bridges improved



# Benefits of Bridge Bundling



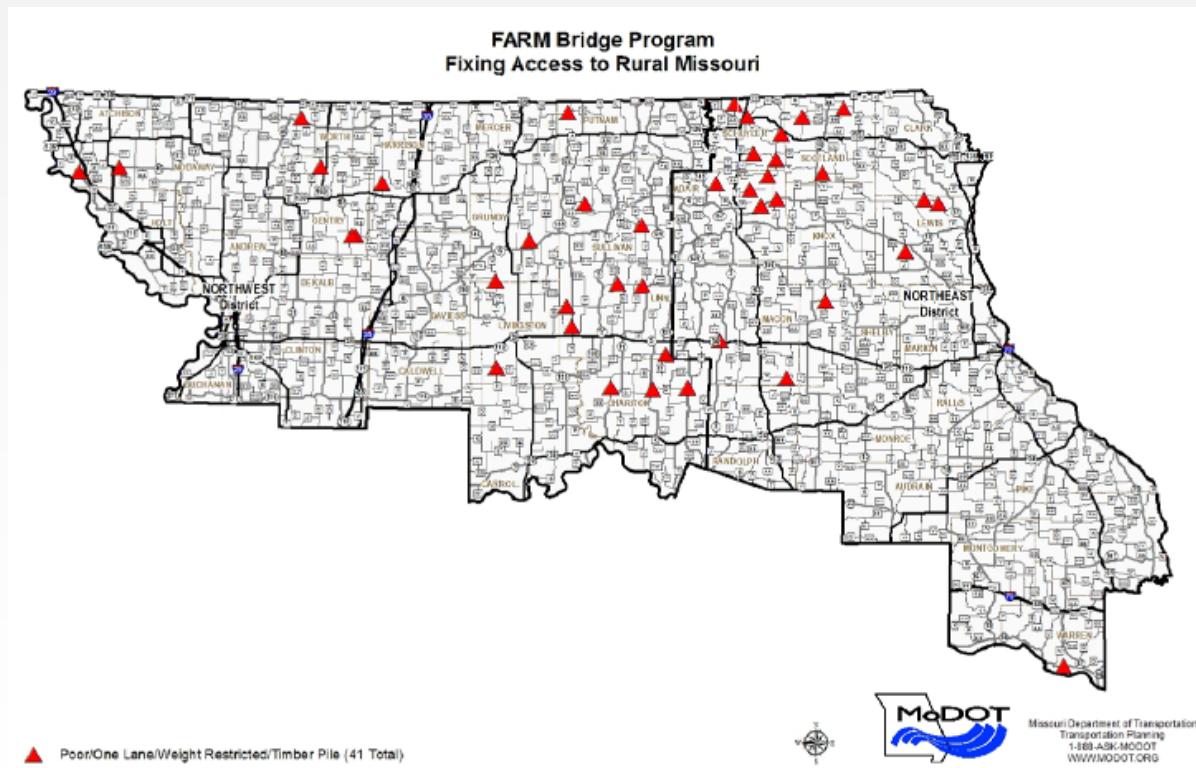
- Maximize scope for a fixed budget
- Control design cost
- Promote innovation
- Speed delivery of project



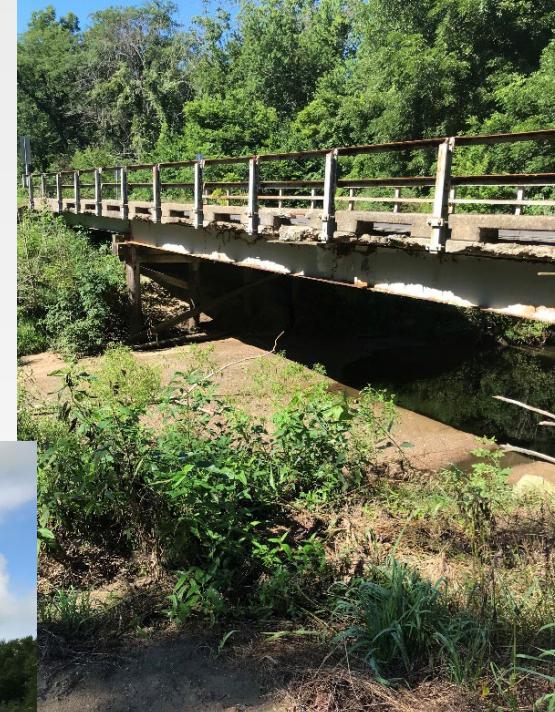
# FARM Bridge Program



- Fixing Access to Rural Missouri (FARM)
- MoDOT identified 41 rural bridges in northern MO
- Four criteria
  - In poor condition
  - Weight-restricted
  - One-lane but carry 2-way traffic
  - On timber piles



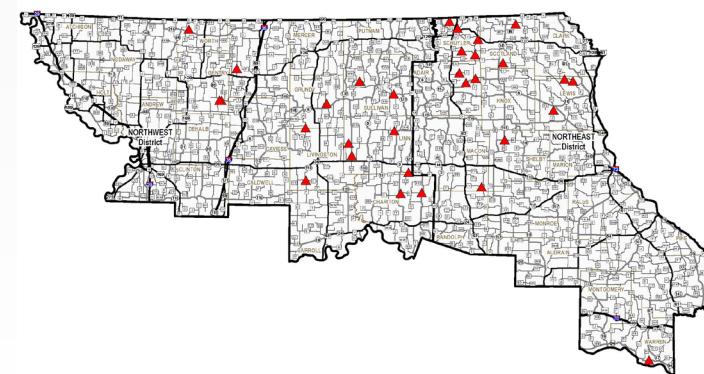
# FARM Bridge Program



# Best Value Proposal



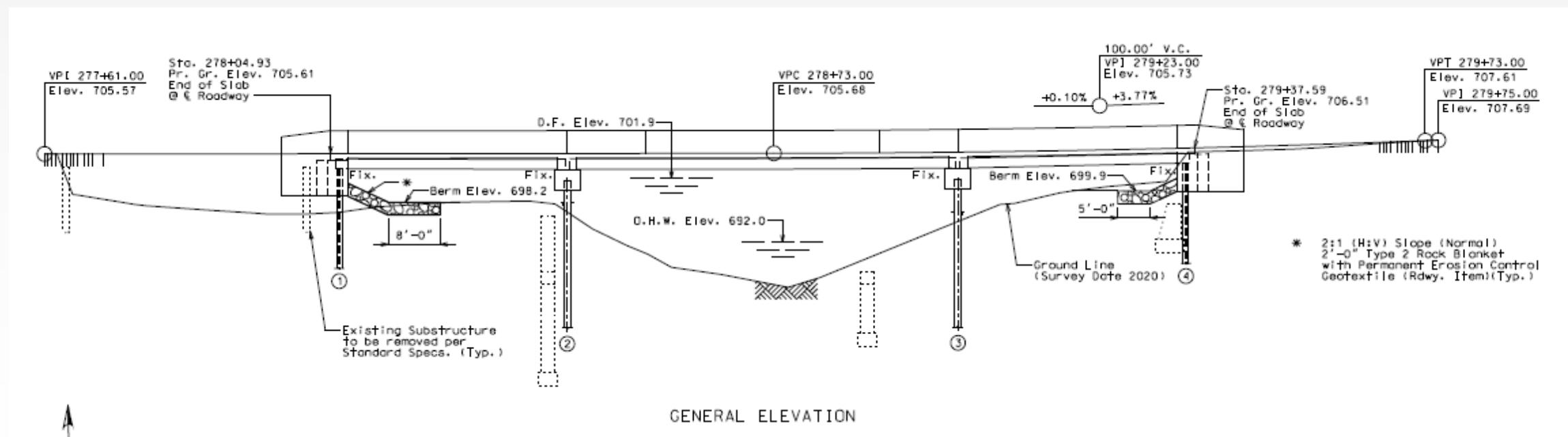
- 31 structures replaced (25 SDCL, 3 single span, 3 RCB)
- Low maintenance steel structures that allow for future re-deck and rehabilitation
- Additional 2321 SQFT of existing bridge deck replaced
- Highest average ADT for routes included of any proposal
- Highest average Benefit Cost Ratio of any proposal



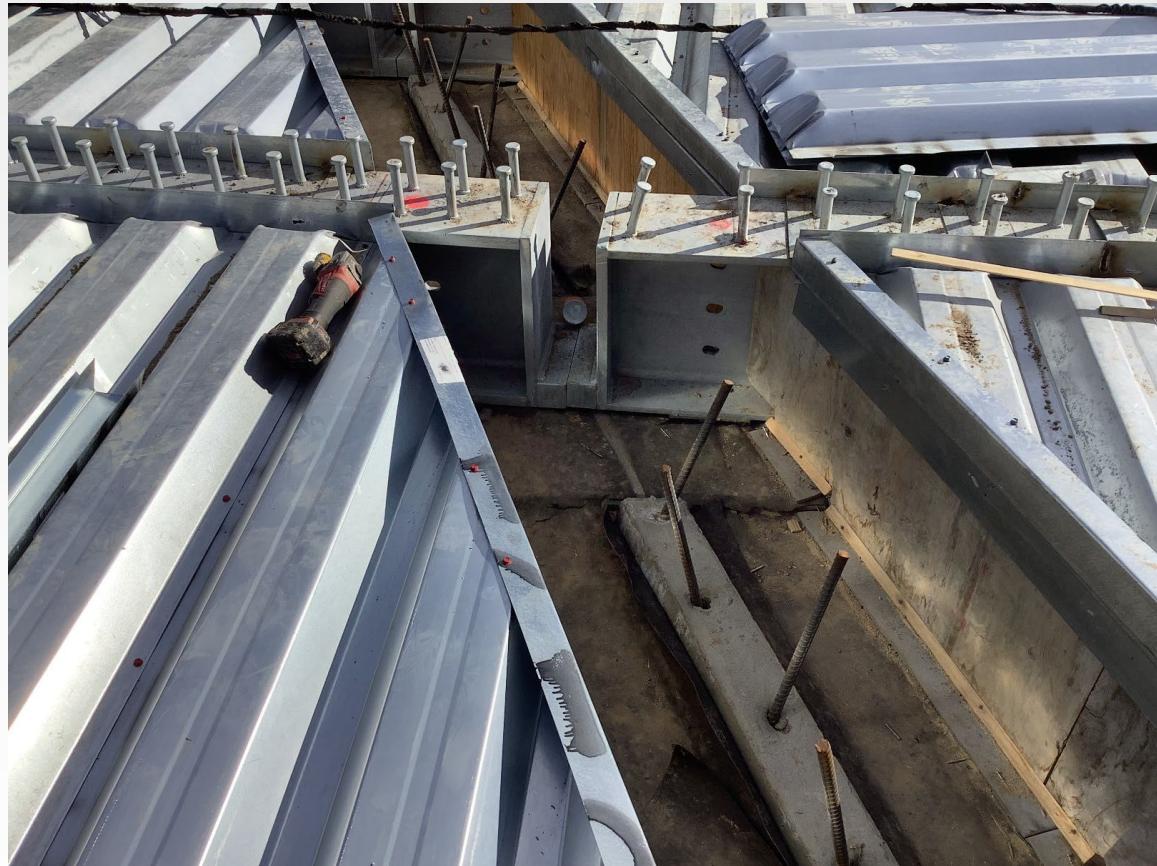
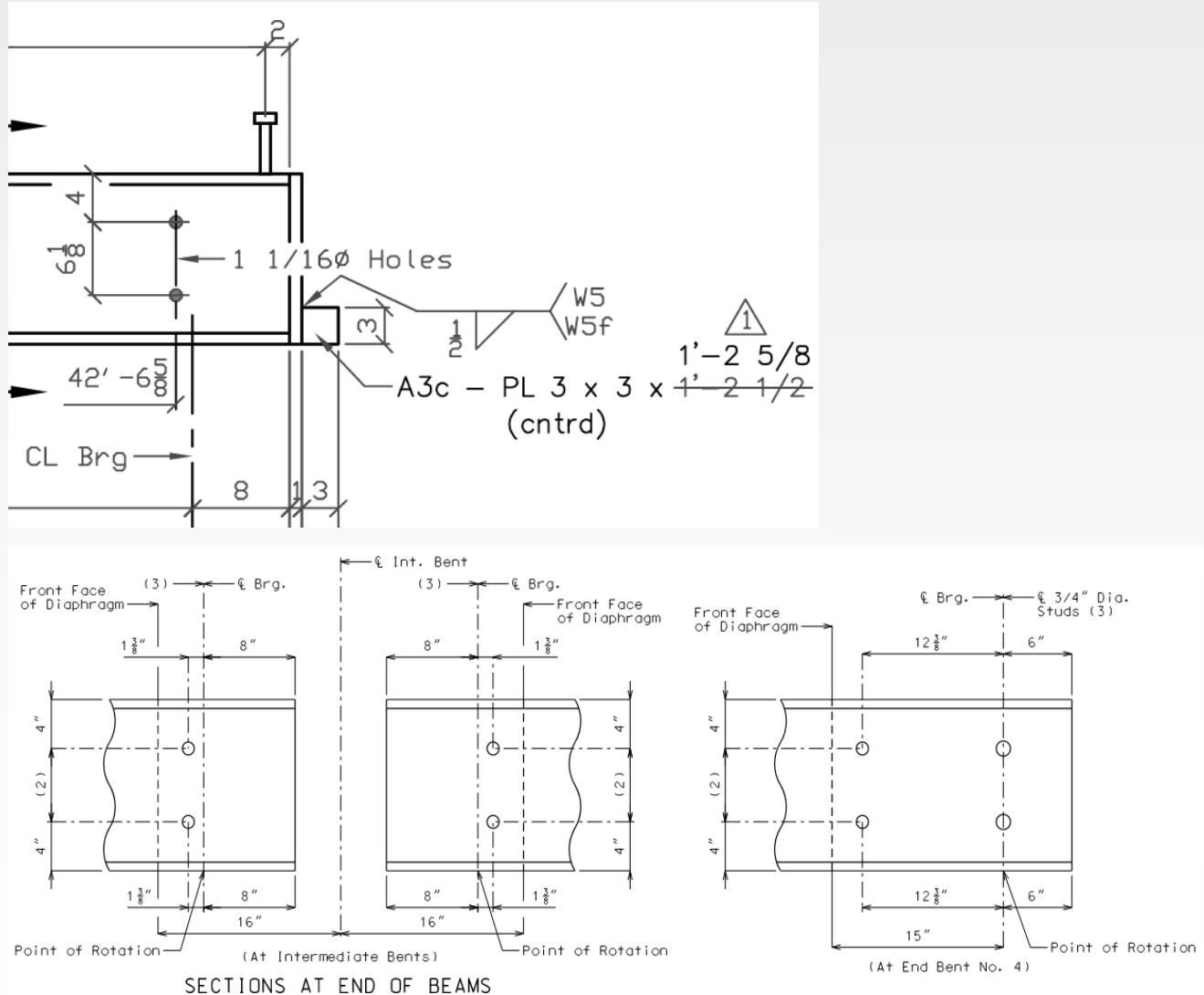
# What is SDCL?



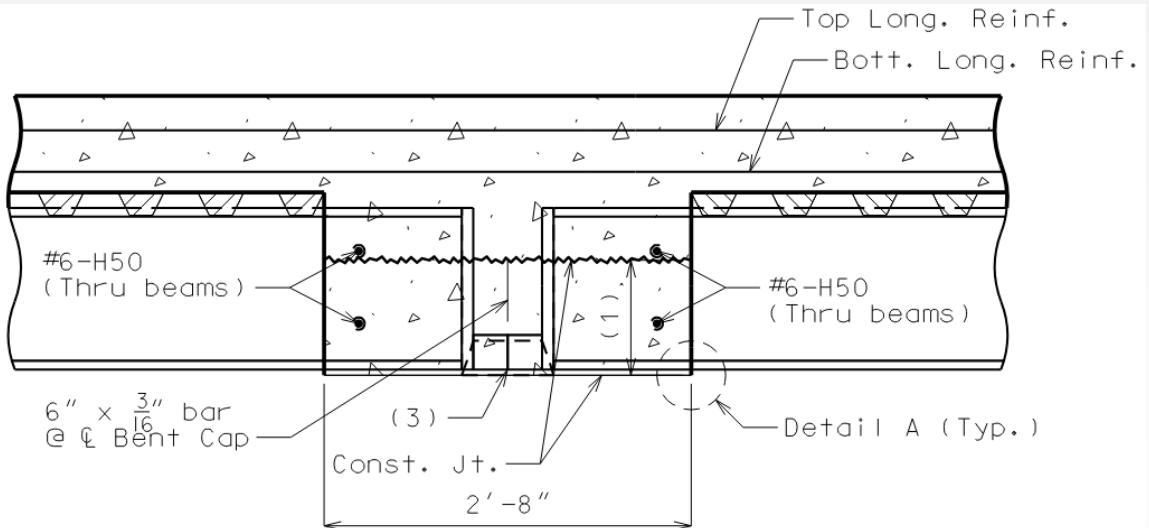
- Simple for Dead Load and Continuous for Live Load
- Multi-span bridges using simple span wide flange beams, made continuous (like that other material)



# What is SDCL?



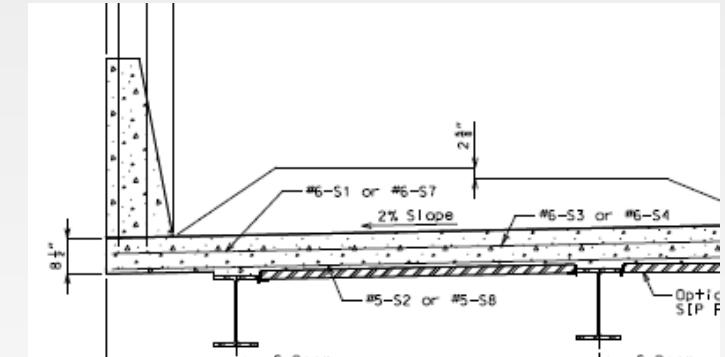
# What is SDCL?



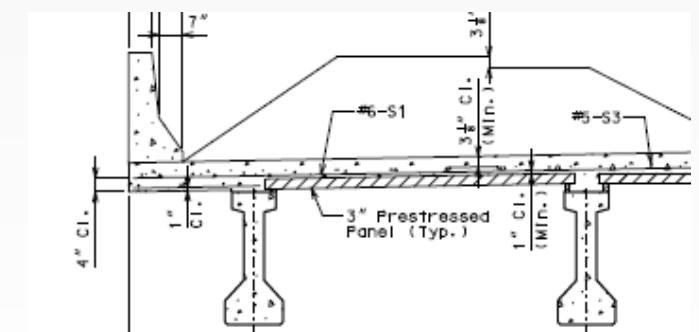
# Why use SDCL?



- Eliminates the use of traditional field splices
- Simple details make steel much more competitive
- Certified Bridge Fabricator – Simple (SBR)
- Certified Bridge Fabricator – Intermediate (IBR)
- Certified Bridge Fabricator – Advanced (ABR)
- Shallower superstructure (No grade raise)
- Lighter beam weights



W18x158 @ 60' = 19.7"  
9,480 pounds



MoDOT Type 3 @ 60' = 39"  
23,900 pounds

# SDCL Construction Sequence



# SDCL Construction Sequence



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# SDCL Construction Sequence



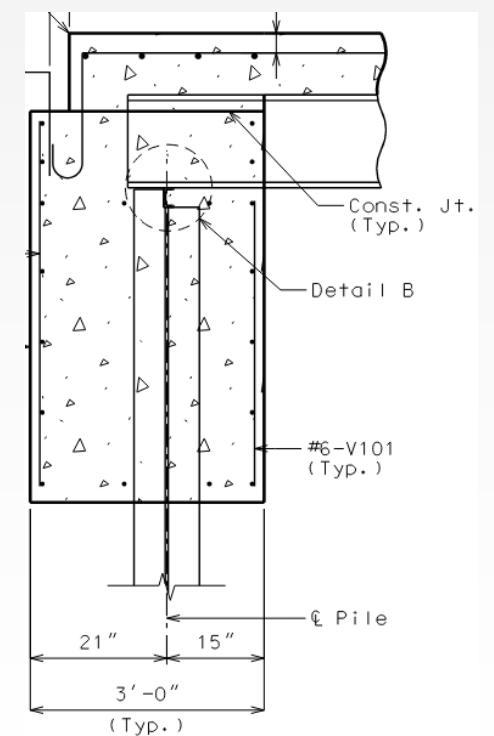
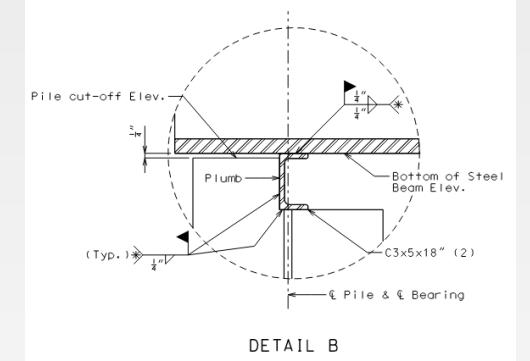
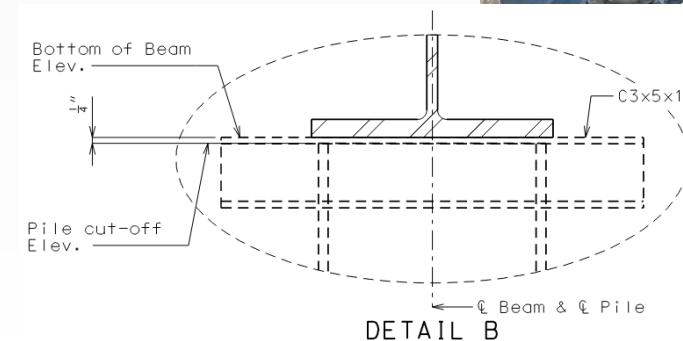
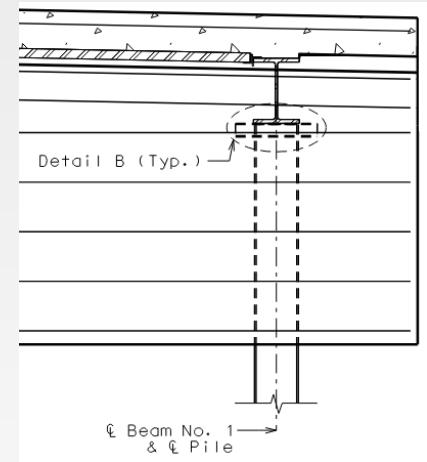
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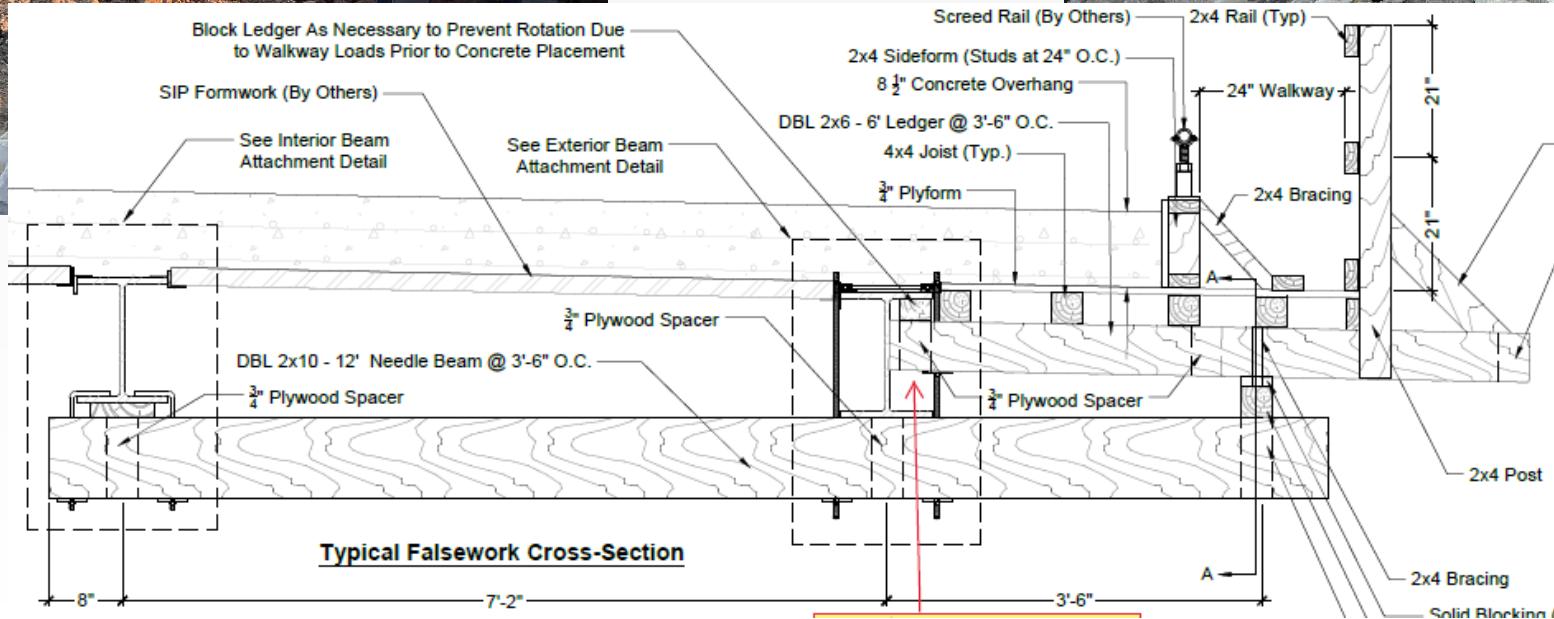
# SDCL Construction Sequence



# Completed FARM Bridges



# SDCL Overhang Concern



# Additional SDCL Projects



- NW Bridge Bundle
  - 9 SDCL superstructure replacements
  - 15 SDCL full bridge replacements



# Additional SDCL Projects



- 14 SDCL replacements and 1 superstructure replacement by design-bid-build since September 2023
- Currently 2 more SDCL replacements in future lettings



# What's Next?



- Continue to use SDCL where it makes sense
- Add section to our Engineering Policy Guidance (EPG) for SDCL use
- <https://epg.modot.org>

Engineering Policy Guide

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Engineering Policy Guide

Our mission is to provide a world-class transportation system that is safe, innovative, reliable and dedicated to a prosperous Missouri.

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MoDOT's three pillars of "Safety, Service and Stability" steer our leadership and employees. Our commitment to safety includes keeping both customers and ourselves safe. Our service includes providing outstanding customer service, delivering transportation solutions of great value and using resources wisely. Keeping roads and bridges in good condition, operating a reliable and convenient transportation system, and advancing Missouri's economic development reflect our commitment to stability. Innovative concepts, such as [Practical Design](#) and [design-build](#), are used to deliver our commitments. These and other forward-thinking concepts shape the content of the ENGINEERING POLICY GUIDE (EPG). This document provides a single reference for all engineering and engineering-related [Bridge](#), [Construction](#), [Design](#), [Highway Safety & Traffic](#), [Maintenance](#), [Planning](#) and [Right of Way](#) guidance.



# Any Questions?

We get people safely where they want to go.

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