

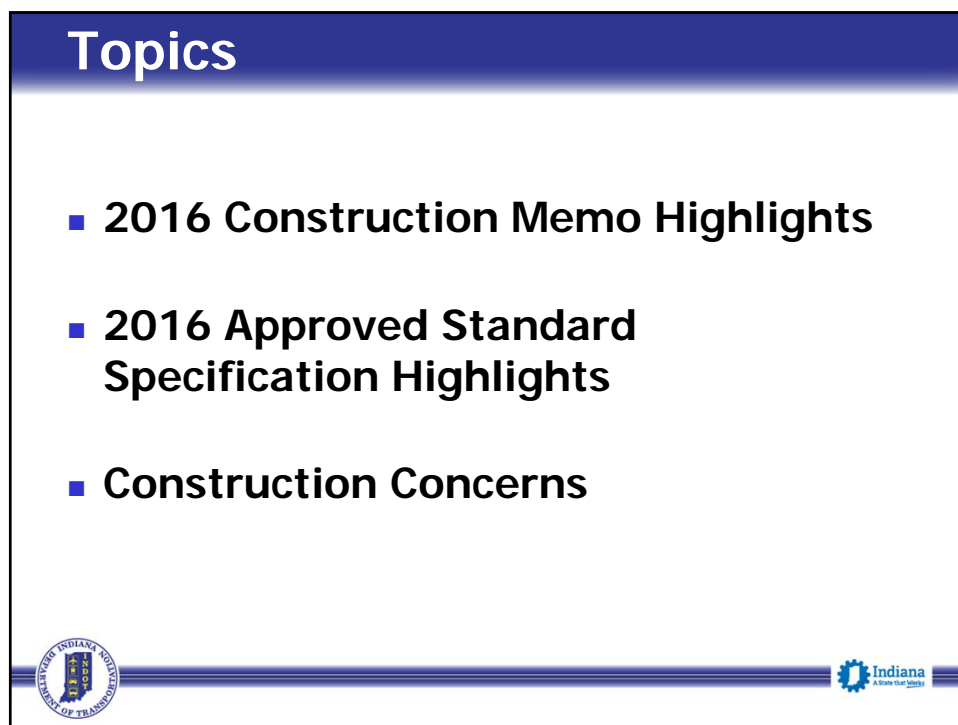


**BRIDGE DESIGN CONF. 2017**

Construction Management



February 16<sup>th</sup> 2017



**Topics**

- **2016 Construction Memo Highlights**
- **2016 Approved Standard Specification Highlights**
- **Construction Concerns**

## 2016 Construction Memos

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            A[INDOT Home Page] --> B[Doing Business with INDOT]
            B --> C[Standards & Specifications]
            C --> D[Memos, Policies, and Instructions]
            
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Issued	Subject	Number
01/19/17	Notice of Termination (NOT) <a href="#">[i]</a>	17-01
10/25/16	Protection of Traffic <a href="#">[i]</a>	16-12
10/13/16	The New EquipmentWatch Website <a href="#">[i]</a>	16-11
10/13/16	Significant Changes to the Approved List for Non-Epoxy Portland Cement Concrete Sealers <a href="#">[i]</a>	16-10
10/13/16	Reinforced Concrete Three-Sided Structures Installation Instruction <a href="#">[i]</a>	16-09
10/13/16	Maintenance of Traffic Safety Improvements Reason Code Addition <a href="#">[i]</a>	16-08
08/23/16	Payment of Thermoplastic Slip Liners <a href="#">[i]</a>	16-07
06/10/16	Unique Special Provision for FALSEWORK REMOVAL Revisions to Section 702 <a href="#">[i]</a> •Discontinued on 09/01/2016•	16-06
06/03/16	Implementation of the Contractor Performance Evaluation (CPE) system <a href="#">[i]</a>	16-05
05/10/16	Field Assistant Application for Stormwater, Erosion, and Sediment Control Inspection Reports <a href="#">[i]</a>	16-04
01/28/16	Automated SiteManager Email Notification System <a href="#">[i]</a>	16-03
01/28/16	Notice of Termination, NOT <a href="#">[i]</a>	16-02
01/21/16	Coordination of Mandatory Bridge Inspections during Construction and Bridge Reconstruction Openings <a href="#">[i]</a>	16-01

## 2016 Construction Memo

- **Reinforced Concrete Three-Sided Structures Installation Instruction**
  - Addresses the three main causes for the failures
    - An issue with the keyway joint between the footing and bottom of each leg section. Some keyway joints have not been properly grouted according to Specifications
    - Lateral movement in the leg sections is another cause for concern for initial installation. RSP 723-B-300 was created to help address this issue.
    - Lastly, poor compaction on each side of the structure can lead to lateral movement of the leg sections.

## 2016 Construction Memo

### ■ Unique Special Provision for FALSEWORK REMOVAL Revisions to Section 702

- Falsework under a reinforced concrete slab, not supported by beams shall remain in place for at least **7** days and exceeding 480 psi flexural strength
- Falsework under a bridge deck supported by beams shall remain in place at least three days post concrete placement and exceeding 480 psi flexural strength
- Falsework for substructure concrete, such as interior bents and pier caps, shall remain in place at least three days following concrete placement and exceeding 480 psi flexural strength.



## 2016 Construction Memo

### ■ Coordination of Mandatory Bridge Inspections during Construction and Bridge Reconstruction Openings

- FHWA sets the timing and frequency of mandatory bridge inspections which may occur while a project is under construction
- Bridge inspections must be completed by the required dates. Failure to perform an inspection in a timely manner can result in a loss of federal funding.
- Field personnel should be aware of the timing for bridge inspections and facilitate coordination between the Bridge Inspection Office and the Contractor for a safe and practical inspection period.
- RSP 105-C-247 BRIDGE INSPECTION COORDINATION, has been developed to identify the bridges within a project's construction limits that are due for inspection.



## 2016 Approved Standard Specification

### ■ BRIDGE INSPECTIONS WITHIN CONSTRUCTION LIMITS

- RSP: 105-C-247
- RSP that identifies the bridges within a contract's construction limits, the inspections that may be required during construction, and the associated time-frames



## Construction Concerns

### Geotechnical Information (C)

- Sometimes shown on plans, but no pay quantity reflected nor special revision for payment info.
- Unspecific areas or quantities which possibly result in large overruns.



## Construction Concerns

### Semi-Integral End Bents (G & L)

- 1 to 2 inch gaps developing at pavement end of RCBA
- Define the treatment required for beam ends embedded in concrete



## Construction Concerns

### Beam Camber Calculations (G)

- Possibly a manufacturer issue?
- Inconsistency between designers



## Construction Concerns

### Reinforcing Steel (G&C)

- Need easier to understand plan sheet cut tables
- Re-steel quantities not shown accurately in Bill of Materials
- Quantity issues when quantities comes from the Standard Drawings



## Construction Concerns

### Bridge Expansion for Long, Heavily Skewed Decks/Bridge Joints in General (G&L)

- Problems with cracking in the RCBA 1' to 2' from the deck
- Sawing lane lines in RCBA seems to help (although not required)
- Wider, more robust bridge joints (more \$) seem to eliminate cracking.



## Construction Concerns

### Bridge Rail (F)

- **Control Joint Detail Guidance for Slip Formed Barrier Rail**
  - None
  - Saw cut
  - Tooled



## Construction Concerns

### Details for Guardrail with Curbing on RCBA/Drainage for MSE Walls (F)

- **The use of better guardrail block-out details when curb is utilized to reduce field changes**
- **Curb and curb turnout usage at MSE walls to take water runoff past MSE wall backfill areas.**



## Construction Concerns

### Elimination of the Additional ¼ in. Scarification on Hydro-demo jobs. (V)

- Contractors have been removing the existing overlay and the extra ¼" in the same pass and want to be paid for both items.



## Construction Concerns

### Hand Chipping of Previous Modified Overlay after Hydro-demo (C)

- Excessive removal of previous modified overlay
- Potential for unknown quantity of hand-chipping
- Results in Conservative bid prices





## Construction Concerns

### Polymeric Overlays vs. Other Sealers? (G)



## Construction Concerns

### Bridge Painting (L)

- When rehabbing and adding shear studs, top of beams may have lead based primer. The removal results in change orders.
- If we know it will be there we should call for its removal and back it up with a General Note.



## Construction Concerns

### General Notes and Plan Sheet Notes (C)

- Notes on plan sheets are not transferred to General Notes or backed up by Special Provisions, which cause change orders.



## Construction Concerns

### More Information Needed on Incidental Construction Areas (C)



## Construction Concerns

### Commitment Issues (FHWA)

- Consistency



## Questions?

