



INDIANA DEPARTMENT OF TRANSPORTATION

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Mike Braun, Governor
Lyndsay Quist, Commissioner

DATE: September 29, 2026

TO: District Deputy Commissioners
District Construction Directors
District Technical Services Directors
District Area Engineers, Project Engineers/Supervisors

CONSTRUCTION MEMORANDUM
26-06

FROM: Joseph J. Novak, P.E. 
Managing Director of Construction

SUBJECT: Concrete Bridge Decks, Bridge Overlays, and Bridge Approaches

To address ongoing concerns related to concrete the following is effective immediately for concrete bridge decks, bridge overlays, and bridge approaches.

Pre-pour meeting: Please direct your Contractor to conduct an in-person pre-pour meeting covering all topics on the attached agenda. Attendance shall include the INDOT representative who is in a decision-making position and will be present during the pour, the ready-mix supplier, and when applicable the concrete pumping service.

Evaporation rate: The following is a revision to current specifications. The rate of water evaporation shall be determined by the Contractor during placement based on actual conditions in accordance with the following equation:

$$E = (T_c^{2.5} - rT_a^{2.5}) (1 + 0.4V) \times 10^{-6}$$

where:

E = Evaporation rate, lb/sq ft/h
T_c = Concrete mix temperature, °F
T_a = Ambient temperature, °F
r = (Percent of Relative Humidity)/100
V = Wind velocity, mph

Measurement of T_a, r, and V shall be obtained on site with a handheld weather meter recorded at a maximum of 30-minute intervals. Measurement of V shall be captured from the direction of wind approximately 20 inches above the deck surface. Measurement of T_c shall be determined from the concrete

on site at the point of placement. Mitigation measures as per the Contractor's plan discussed at the pre-pour meeting should be considered when evaporation rate during placement exceeds 0.13 lb/sq ft/h.

Steel trowels: Aluminum or magnesium are the recommended materials for proper hand finishing because they avoid sealing the surface too tightly and help embed aggregate correctly. While steel troweling has benefits and can in some types of work begin after floating and bleed water dissipates, the use of steel trowels is prohibited due to the potential of prematurely sealing the surface thereby increasing the likelihood of delamination and scaling. Steel trowels can be readily identified by a very thin blade, sharp edges, or even a magnet.

Flexural test beams (does not apply to overlays but does apply any other time beams are used): Type IL cement concrete beams may be fragile early on. Please ensure that once the beams are made that they are immediately moved to the initial curing location; and then taken to the storage location and demolded no sooner than 36 hours. This memorandum serves as an interim revision to INDOT Standard Specifications Section 505 which currently instructs demolding in 24 hours but may be updated depending on the continued presence of Type IL cement in concrete. When the ambient temperature falls below 55°F the beams should be placed on an insulating material to prevent heat loss to the ground and should not be shaded from direct sunlight except for curing materials. When the ambient temperature exceeds 75°F the beams should be shaded from direct sunlight. While the use of a vibrator is an acceptable method of consolidation per AASHTO for beam samples, it must be done very carefully. Therefore, the use of a tamping rod should instead be the method of consolidation going forward assuming slumps greater than 1.0 in. Beam molds, steel or plastic, should be lightly coated with mineral oil or a suitable non-reactive form release material to avoid unwanted skin friction and surface stress. Any initial unseen damage to the beam may be a contributing factor to stagnating strength.

Post-pour inspection: A documented inspection is recommended to be performed by the PEMS immediately at end of the wet cure or prior to opening to traffic for all decks (not just overlays). Some remedy decisions could be made at that time while the bridge is still closed to traffic; and then final decisions if conditions significantly worsen by the pre-final inspection date. PEMS should consult with the Area Engineer for any remedial work.

No additional payment will be considered for these directives. All other requirements are to remain as per the specifications applicable to the contract. Any questions should be directed to your assigned Construction Management Field Engineer.

Attachments:

Pre-Pour Meeting Agenda

Post-Pour Report

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INDOT Bridge Deck Pre-Pour Meeting Agenda / Checklist Guidance

The purpose of this meeting is to improve communication, planning, consistency, and overall bridge deck quality through collaboration between the Contractor, Owner, Suppliers, and Inspection Staff.

SECTION 1 — Project Information Pour Report

Project Name	
Contract Number	
Contractor(s)	
Date/ Time of Meeting	
Planned Pour Date/ Time	
Approved Mix #	
Pour Area (SYS)/ Total CYS	
Pour Rate CYS/HR	
Estimated Pour Duration	
Crew Size	
Concrete Supplier	
Pump Supplier	
Pump Size	
Screed Type	
Finish/ Texture Type	
Cure Method	
Finishing Aid (QPL)	
Weather Forecast	

Weather Items	Expected
Air Temperature (°F)	
Concrete Temperature(°F)	
Wind Speed (MPH)	
Humidity (%)	
Evaporation Rate(lb/sq.ft/hr)	

SECTION 2 — Pre-Pour Planning Discussion

A. Weather / Environmental Conditions

- Forecast reviewed including projected evaporation rate
- Rain potential discussed
- Wind conditions discussed
- Evaporation mitigation plan discussed if applicable
- Cure materials onsite
- Backup weather plan discussed

B. Concrete Supply and Mix

- Approved mix reviewed
- Expected slump range; approval authority for additional water
- Air content requirements
- Batch sizes
- Number of trucks?
- Truck cycle time discussed
- Delivery route & backup route discussed.
- Plant location
- Plant production capacity confirmed
- Backup plant available?
- Communication process with plant discussed
- Concrete washout locations

C. Placement Operations

- Planned start/finish locations
- Placement sequence reviewed
- ☐ Pump ☐ Bucket ☐ Chute/ Tremie ☐ Other:_____
- Pump setup/location
- Number of pumps
- Backup pump plan
- Screed operation discussed
- On-site mechanic
- Access/traffic control reviewed
- Lighting plan for night pours
- Crew size/manpower review. How many finishers?
- Skew placement concerns?

SECTION 3 — Finishing / Best Practices Acknowledgement

- No steel finishing tools planned
- No evaporation retardants planned during finishing operations
- Forms shall be clean of all debris before concrete is placed.
- Finishing methods reviewed, including compliance with specification requirements regarding the use of water/ misting during finishing operations.
- Finishing aid off the approved QPL
- Texturing method discussed
- Cure timing discussed
- Vibration procedures discussed
- Use only approved vibrators per INDOT Spec 702.20(c) and 704.05
- Concrete vibrators utilized in accordance with manufacturer recommendations, including proper spacing and vibration patterns
- Periodic checks for flatness with 10ft straightedge

SECTION 4 — Curing Operations

- Cure method discussed
- Cure start timing discussed
- Wet burlap availability confirmed
- Poly sheeting availability confirmed
- Water source confirmed
- Cure crew assigned
- Cure continuity plan discussed
- Edge curing procedures discussed
- Cold weather curing plan reviewed if applicable

SECTION 5 — Emergency / Contingency Planning

- Rain plan discussed
- Equipment breakdown plan discussed
- Screed failure plan discussed
- Emergency bulkhead plan discussed, including availability of materials, equipment, and labor required to safely terminate the pour if necessary.
- Pump failure plan discussed

- Traffic incident plan discussed
- Communication chain established. During concrete placement, all instructions, requests, and decisions affecting the work shall be communicated through the designated representatives. Other project personnel shall communicate through their respective representative to avoid conflicting direction. Communication representatives are listed below:

Contractor:	INDOT:	Concrete Producer:
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SECTION 6 — INDOT Testing

- Reference the current INDOT Manual for Frequency of Sampling and Testing
- Planned number of tests and when each test will be taken prior to and during the pour
- What specific tests will be taken during these times – air, yield, slump, test beams/cylinders?
- Who will be taking the tests and are they qualified?
- Where will the tests be taken? On the deck, at the truck/pump, etc.?
- Does INDOT have a sled to move testing equipment across the deck's rebar if their intent is to test the concrete after it is placed on the deck?
- Plan for water source to rinse testing equipment off. Concrete trucks?
- When will the test beams/cylinders be taken during the pour?
- Where will the test beams/cylinders be placed for curing?
- How will the test beams/cylinders be handled and cured? Burlap, sheeting, blankets, sand pit, water bath, lime bath, on-site, off-site, etc.
- Expectations on when the test beams/cylinders will be broken.
- Review each specific tests' pass/fail requirements.
- Review what will be done if a specific test fails?

SECTION 7 — Final Readiness Checklist

- ☐ Rebar checked
- ☐ Deck drains checked
- ☐ Forms checked
- ☐ Screed rails checked
- ☐ Cure materials onsite/ Burlap pre-soaked
- ☐ Deck cleanliness
- ☐ Weather acceptable
- ☐ Concrete plant confirmed
- ☐ Traffic control in place

- ☐ PPE for all agencies
- ☐ Dry run depth checks and documented by INDOT

SECTION 8 — Meeting Attendees

Signatures acknowledge attendance and participation in the pre-pour meeting and do not constitute approval or acceptance of the Contractor's means, methods, or procedures.

[illegible]

Comments: _____

[illegible]



Bridge Deck and Approach Slab Post-Pour Report

Contract #: _____

Date of Pour: _____ Prepared by: _____

Names of ACI, or approved equivalent, certified personnel on site:

Name	Certification

Reason, locations, and times of fog misting and description of system:

Description of any additional evaporation rate mitigation measures:

Type of finishing aid and amount applied to the surface of the concrete:

Rainfall during pour with duration and indication of intensity (e.g., mist, light, heavy):

Temperature of the concrete during placement (only one reading required but all readings taken should be reported):

Temperature (°F)	Time Taken

Weather conditions recorded with a handheld weather meter at a maximum of 30-minute intervals (Ambient temperature, Relative humidity, Wind speed, Calculated evaporation rate): Note a printout or exported electronic file from the weather meter shall be transmitted with this report.