INDIANA DEPARTMENT OF TRANSPORTATION
100 North Senate Avenue
Room N758 CM
Indianapolis, Indiana 46204
www.in.gov/indot
Eric Holcomb, Governor
Mike Smith, Commissioner

FIRST DRAFT MINUTES

December 18, 2024, Standards Committee Meeting

(Changes to the Agenda by the Action of the Committee shown as highlighted yellow.)

December 20, 2024

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the December 18, 2024, Standards Committee Meeting

The Standards Committee meeting was called to order by Mr. Pankow, Chair, at 09:00 a.m. on Wednesday, December 18, which was held virtually via *Teams* (Microsoft application). The meeting was adjourned at 9:56 a.m.

The following committee members were in attendance:

Pankow, Gregory, Chairman, Director, Construction Management
Boruff, Dave, Traffic Engineering
Koch, Mike, District Construction, Fort Wayne District
Novak, Joseph, Construction Management
Orton, Mark, Highway Engineering
Pelz, Kurt, Construction Technical Support
Rearick Anne, Bridge Management
Reilman, Jim, Materials and Tests
Dave, Kumar, Pavement Engineering
White, Peter, Bridge Engineering
Wooden, John, Contract Administration

Also, the following attendees were present:

Aquirre, Frank, INDOT
Awwad, Nathan, INDOT
Barnes, Tracy, INDOT
Beeson, Matthew, INDOT
Blanchard, Jacob, INDOT
Cosenza, Nicholas, INDOT
Couch, Gregory, INDOT
Cruz, Elena, INDOT
Jacobs, David, INDOT
Johnson, Krystin, INDOT
Kachler, Mischa, INDOT
Lamkin, Sara, INDOT
Mouser, Elizabeth, INDOT
Mueller, Bart, INDOT
Nelson Mike, INDOT
Osborn, Dan, ICI

Delp, Patrick, INDOT	Pangallo, Andrew, INDOT
Duncan, Steve, INDOT	Pastuszka, Elizabeth, APAI
Duncan, Thomas, FHWA	Podorvanova, Lana, INDOT
Fisher, Steve, INDOT	Powell, Traci, INDOT
Fox, Gary, INDOT	Shi, Runfa, INDOT
Galetka, Jason, INDOT	Smith, Charles, INDOT
Harding, Matthew, INDOT	Thornton, Donald, INDOT
Harris, Tom, INDOT	Trammell, Scott, INDOT
Hauser, Derrick, INDOT	Zahrn, Tim, Asphalt Materials

The following items were discussed:

A. GENERAL BUSINESS

OLD BUSINESS

(No items were listed)

NEW BUSINESS

Approval of the Minutes from the November 22 meeting:

Mr. Pankow requested a motion to approve the Minutes from the November 22, 2024 meeting.

Motion: Mr. Pelz
Second: Mr. Reilman
Ayes: 10
Nays: 0

ACTION: PASSED AS SUBMITTED

B. CONCEPTUAL PROPOSAL

Preparation for publishing 2026 SS — K. Pelz — pg. 5

There were no questions or discussion concerning this item.

C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, AND STANDARD DRAWINGS PROPOSAL

OLD BUSINESS

(No items were listed)

NEW BUSINESS

Item No. 1 — Mr. Novak — pg. 6

2024 Standard Specifications:

101.15	Contract Time
101.78	~~Work~~*Workable* Day
108.03	Notice to Proceed

108.08	Determination and Extension of Contract Time
108.09	Failure to Complete on Time
202.02	General Requirements
202.07	Inspection and Removal of Asbestos
205.03(g)	Inspections
208.02	Finishing Shoulders
215.07	Spreading of Chemical Modifiers
216.03	Mix Design
217.07	Spreading of Chemical Modifiers
306.04	Asphalt or PCCP Scarification Milling
306.05	Asphalt or PCCP Profile Milling to Correct Cross Slope
306.07	Asphalt or PCCP Milling to a Specified Average Depth
401.14	Spreading and Finishing
401.16	Density
402.13	Spreading and Finishing
402.16	Low Temperature Compaction Requirements
410.14	Spreading and Finishing
410.16	Density
410.20(c)	BSG of the Density Core
501.04	Concrete Mix Design
501.04(b)	Adjustments to Materials
502.03	Concrete Mix Design
506.03	Concrete Mix Design
619.04	Prosecution of Work
701.04(a)	Approval of Pile Driving Equipment
711.65	Bolted Connections Using High Strength Bolts
712.08	Painting
729.04	Pre-Heat Straightening Inspection
801.12	Temporary Pavement Marking
801.03	General Requirements
802.09	Removal, Resetting, or Relocation of Signs or Support Assemblies
807.04(b)	Foundation Excavation

ACTION: PASSED AS REVISED

Item No. 2 Mr. Novak pg. 20

2024 Standard Specifications:

106.01(b)2	Delivery Ticket Information
109.01(b)	Scales and Measurement by Weight (Mass)

ACTION: PASSED AS SUBMITTED

Item No. 3 Mr. Novak pg. 25

2024 Standard Specifications:

103.01(c)	Goal

ACTION: PASSED AS SUBMITTED

Item No. 4 — Mr. White — pg. 29

2024 Standard Specifications:

707.02	Materials
707.04	Steel and Concrete Requirements
707.04(c)1	Self-Consolidating Concrete, SCC
707.06	Placing and Finishing Concrete
707.08	Handling and Shipping
707.12	Basis of Payment

2024 Standard Drawings:

E 707-BPBF-01	FABRICATION TOLERANCES INDEX AND GENERAL NOTES
E 707-BPBF-02	FABRICATION TOLERANCES PRESTRESSED BOX BEAM
E 707-BPBF-03	FABRICATION TOLERANCES PRESTRESSED I-BEAM AND BULB-TEE BEAM
E 707-BPBF-04	*FABRICATION TOLERANCES PRESTRESSED NEXT BEAM*

ACTION: PASSED AS REVISED

Item No. 5 — Mr. Reilman — pg. 43

Recurring Special Provision:

410-R-759	QC/QA HMA – SMA PAVEMENT

ACTION: PASSED AS SUBMITTED

Item No. 6 — Mr. Reilman — pg. 50

Recurring Special Provisions:

401-R-750	VOID REDUCING ASPHALT MEMBRANE FOR HMA
410-R-751	VOID REDUCING ASPHALT MEMBRANE FOR SMA

ACTION: WITHDRAWN

cc: Committee Members
FHWA
ICI

CONCEPTUAL PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: INDOT Standard Specifications have been regularly updated by adding new or revising existing statements, work procedures, materials, methods, etc.

Prior to publishing a 2026 Standard Specifications book (effective September 1, 2025), the review of the current edition, 2024 Standard Specifications, is underway.

Listed divisions with shown proposed edits can be reviewed at:
https://www.in.gov/dot/div/contracts/standards/sc/

"Conceptual Item" for the December 18, 2024 SC meeting posted under "Agenda".

Division 700 Structures

Division 800 Traffic Control Devices and Lighting

Division 900 Materials Details

PROPOSED SOLUTION (conceptual): Continue to review all Divisions (100 thru 900) of the 2024 Standard Specifications and make editorial corrections, as found necessary, rewrite statements that are not clearly formulated, or their written intentions are hard to follow.

APPLICABLE STANDARD SPECIFICATIONS: 2024 Standard Specifications and approved RSPs

APPLICABLE STANDARD DRAWINGS: n/a

APPLICABLE DESIGN MANUAL SECTION: n/a

APPLICABLE SECTION OF GIFE: n/a

APPLICABLE RECURRING SPECIAL PROVISIONS: various RSPs (if affected)

PAY ITEMS AFFECTED: n/a

APPLICABLE SUB-COMMITTEE ENDORSEMENT: ad-hoc Specification's review group: Kurt Pelz, Scott Trammell, Lana Podorvanova.

IMPACT ANALYSIS (attach report): n/a

Submitted By: Kurt Pelz
Title: Construction Management Technical Support
Organization: INDOT
Phone Number: 317-691-4800
Date: 12/02/2024

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: On all contracts per 108.08, the project personnel are required to report on the controlling operation and the weather for each date which populates the weekly statement provided to the Contractor. This record is used to determine the scope and length of any Time Extensions which are owed to the contractor due to delays due to weather by assessing if a contractor can be expected to perform meaningful work on the controlling operation on each day. However, the specification has been written around three different Contract Time types and does not clearly define what constitutes a workable day, but rather only defines a work day in 101.78. The work day definition is for use on work day contracts as defined in 108.08.

PROPOSED SOLUTION: Define a workable day in the definitions and terms section of the specification. Since Work Day type contracts are no longer being used delete all such references from the specification where appropriate and in some cases change the term to workable day where appropriate.
Each instance of work day was replaced with a different defined day as generally follows:

1. If work day is referring to the determination of contract time workable day was used.
2. If work day is referring to a time involving groups or offices outside of construction business day was used
3. If work day was referring to a maximum time calendar day was used and the duration converted to an equivalent duration.

APPLICABLE STANDARD SPECIFICATIONS: 101, 108; 200, 300, 400, 500, 600, 700, and 800
APPLICABLE STANDARD DRAWINGS: N/A
APPLICABLE DESIGN MANUAL SECTION: N/A
APPLICABLE SECTION OF GIFE: 2.18.3
APPLICABLE RECURRING SPECIAL PROVISIONS: N/A
PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: 2026 Book Only

IMPACT ANALYSIS (attach report):

Submitted By: Joe Novak
Title: State Construction Engineer
Organization: INDOT
Phone Number: 317-501-7805
Date: 11/18/24

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Approved Materials List? No
Will this proposal improve:

- Construction costs? No
- Construction time? Yes
- Customer satisfaction? Yes
- Congestion/travel time? No
- Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

- For motorists? No
- For construction workers? No

Will this proposal improve quality for:

- Construction procedures/processes? Yes
- Asset preservation? No
- Design process? No

Will this change provide the contractor more flexibility? No

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

- Federal or State regulations? No
- AASHTO or other design code? No

Is this item editorial? Yes

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: N/A

REVISION TO 2024 STANDARD SPECIFICATIONS

SECTION 101 – DEFINITIONS AND TERMS
101.15 Contract Time
101.78 Work Day
SECTION 108 – PROSECUTION AND PROGRESS
108.03 Notice to Proceed
108.08 Determination and Extension of Contract Time
108.09 Failure to Complete on Time
SECTION 202 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS
202.02 General Requirements
202.07 Inspection and Removal of Asbestos
SECTION 205 – STORMWATER MANAGEMENT
205.03(g) Inspections
SECTION 208 – FINISHING SHOULDERS, DITCHES, AND SLOPES
208.02 Finishing Shoulders
SECTION 215 – CHEMICAL MODIFICATION OF SOILS
215.07 Spreading of Chemical Modifiers
SECTION 216 – CELLULAR CONCRETE FILL, CCF
216.03 Mix Design
SECTION 217 – SOILS DRYING WITH CHEMICAL MODIFIERS
217.07 Spreading of Chemical Modifiers
SECTION 306 – MILLING
306.04 Asphalt or PCCP Scarification Milling
306.05 Asphalt or PCCP Profile Milling to Correct Cross Slope
306.07 Asphalt or PCCP Milling to a Specified Average Depth
SECTION 401 – QC/QA HMA PAVEMENT
401.14 Spreading and Finishing
401.16 Density
SECTION 402 – HMA PAVEMENT
402.13 Spreading and Finishing
402.16 Low Temperature Compaction Requirements
SECTION 410 – QC/QA HMA – SMA PAVEMENT
410.14 Spreading and Finishing
410.16 Density
410.20(c) BSG of the Density Core
SECTION 501 – QC/QA PORTLAND CEMENT CONCRETE PAVEMENT, PCCP
501.04 Concrete Mix Design
501.04(b) Adjustments to Materials
SECTION 502 – PORTLAND CEMENT CONCRETE PAVEMENT, PCCP
502.03 Concrete Mix Design
SECTION 506 – PCCP PATCHING
506.03 Concrete Mix Design
SECTION 619 – PAINTING BRIDGE STEEL
619.04 Prosecution of Work
SECTION 701 – DRIVEN PILING
701.04(a) Approval of Pile Driving Equipment
SECTION 711 – STEEL STRUCTURES
711.65 Bolted Connections Using High Strength Bolts
SECTION 712 – TIMBER STRUCTURES
712.08 Painting
SECTION 729 – HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD
729.04 Pre-Heat Straightening Inspection
SECTION 801 – TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS
801.12 Temporary Pavement Marking
801.03 General Requirements
SECTION 802 – SIGNS
802.09 Removal, Resetting, or Relocation of Signs or Support Assemblies
SECTION 807 – HIGHWAY ILLUMINATION
807.04(b) Foundation Excavation

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 101, BEGIN LINE 229, DELETE AND INSERT AS FOLLOWS:

101.15 Contract Time

The *fixed calendar date or the* number of ~~work days or~~ calendar days allowed for completion of the contract or *a* phase of the contract, including authorized time extensions.

~~If a calendar date of contract completion or contract phase completion is shown in the Proposal in lieu of the number of work or calendar days, the contract shall be completed by that date.~~

SECTION 101, BEGIN LINE 559, DELETE AND INSERT AS FOLLOWS:

101.78 ~~Work~~*Workable* Day

A calendar day~~, exclusive of Saturdays and State recognized holidays,~~ on which *inclement* weather ~~and other conditions not under the control of the Contractor will enable~~*does not prevent* work on the controlling operations for at least 50% of the day ~~with the normal working force~~. However, if *the* weather is unsuitable for work on the controlling operation at the normal starting time, and remains unsuitable for 2 h, *such* a ~~work~~ day will ~~not~~ be ~~charged~~*considered non-workable regardless* if the Contractor ~~does not~~ work*ed on other operations*. ~~No work days will be charged during the months of December, January, February, or March, unless otherwise specified.~~

SECTION 108, BEGIN LINE 63, DELETE AS FOLLOWS:

If a delayed starting date is indicated in the proposal, the 15-calendar day limitation will be waived. ~~Work day charges will then begin on a date mutually agreed upon, but not later than the delayed starting date specified.~~ If the contract is canceled after an award has been made but prior to the issuing of the notice to proceed, no reimbursement will be made for any expenses accrued relative to this contract during that period.

SECTION 108, BEGIN LINE 315, DELETE AND INSERT AS FOLLOWS:

~~If the contract time is on a work day basis, as defined in 101.78, a weekly statement showing the number of days charged to the contract to date and for the preceding week, the number of days specified for completion of the contract, and the days remaining and the controlling operation will be furnished. The Contractor will be allowed one week from the date it receives the statement in which to file a written protest setting forth in what respect the weekly statement is incorrect. Otherwise, the statement will be deemed to have been accepted by the Contractor as correct. For the purpose of computation, work days will be considered as beginning on the fifteenth calendar day after the date of the notice to proceed. All calendar days elapsing between the effective dates of orders to suspend work and to resume work for suspensions which are not the fault of the Contractor will be excluded.~~

If the contract time is on a calendar day basis, it shall consist of the number of calendar days stated in the contract including all Sundays, holidays, and non-work*able* days ~~counting from the date of the notice to proceed~~. All calendar days elapsing between the effective dates of any orders to suspend work and to resume work for suspensions not the fault of the Contractor will be excluded. A weekly statement showing the controlling operation *and the fraction of each day that was workable on the controlling operation* will be furnished. *A workable day or fraction thereof will be determined as defined in 101.78.* The Contractor will be allowed one week from the date it receives the statement in which to file a written protest setting forth in what respect said weekly statement is incorrect. Otherwise, the statement will be deemed to have been accepted by the Contractor as correct. *The Department will begin providing weekly statements when the Contractor begins work operations, but no later than the earliest date the Contractor ~~is permitted~~will be allowed to begin work in accordance with the contract.*

If the contract time is a fixed calendar date, it shall be the date on which all work on the contract shall be completed. For such contracts, an extended date of completion will be considered for delay in the issuance of the notice to proceed if the notice to proceed is not issued within 30 days of the letting, except if the delay is due to the failure of the Contractor to furnish requested forms or information. Unless otherwise determined, an extension to the contract completion date and intermediate completion date will be allowed for each calendar day from 30 days after the date of the letting to and including the date of the notice to proceed. A weekly statement showing the controlling operation *and the fraction of each day that was workable on the controlling operation* will be furnished. *A workable day or fraction thereof will be determined as defined in 101.78.* The Contractor will be allowed one week from the date it receives the statement in which to file a written

protest setting forth in what respect said weekly statement is incorrect. Otherwise, the statement will be deemed to have been accepted by the Contractor as correct. *The Department will begin providing* ~~*weeklies*~~*weekly statements*[1] *when the Contractor begins work operations, but no later than the earliest date the Contractor* ~~*is permitted*~~*will be allowed to begin work in accordance with the contract.*

SECTION 108, BEGIN LINE 433, DELETE AND INSERT AS FOLLOWS:

The Department may order the suspension of work, either wholly or in part, for a period of time for certain holidays not already specified herein. For such orders, if the contract suspension is not stated in the contract documents, the contract completion time will be adjusted as follows:

~~(a) If the contract completion time is on a work day basis, no work days will be charged on those days that work on the controlling operation is suspended.~~

~~(b)~~*1.* If ~~the~~*a* contract ~~completion~~ time is on a calendar day basis, all calendar days on which work on the controlling operation is suspended will be excluded.

~~(c)~~*2.* If ~~the~~*a* contract ~~completion~~ time is a fixed calendar date, the contract *time* will be extended by the number of days that work on the controlling operation is suspended.

~~(d) If the contract contains an intermediate completion time, said time will be adjusted in accordance with the requirements of (a) or (b), above as appropriate, provided that the suspension occurs within the time period while the intermediate completion time is in effect.~~

If the Department does not *specify nor* order the suspension of work for certain holidays, work may be performed on those holidays. ~~On a work day contract, a work day will be charged for each holiday worked.~~ On a completion date contract, the contract completion time will not be shortened by the number of holidays worked.

~~Contract time~~*Liquidated damages* will not be ~~charged~~*assessed* during the required cure period for concrete surfaces requiring a sealer, provided all other contract work is completed and all lanes are open to traffic. ~~Charging of contract time~~*Liquidated damages* will resume after the required cure period. ~~The contract time will be adjusted as follows:~~

~~(a) If the contract completion time is on a work day basis, work days will not be charged for those days on which work is suspended.~~

~~(b) If the contract completion time is on a calendar day basis, all calendar days on which work is suspended will be excluded.~~

[1] corrected 12/5/2024 (based on comment received)

~~(c) If the contract completion time is a fixed calendar date, the contract will not be extended.~~

SECTION 108, BEGIN LINE 585, DELETE AND INSERT AS FOLLOWS:

108.09 Failure to Complete on Time

For each calendar day, as specified, that work shall remain incomplete during the months of April through November inclusive, after the control time specified for the completion of the work provided for in the contract, the sum specified in the Proposal or Special Provisions will be deducted, as liquidated damages, from any money due the Contractor. Account will be taken of adjustment of the contract time for completion of the work granted in accordance with 108.08. ~~Calendar days~~*Contract time* will not be charged while waiting for final inspection as defined in 105.15 provided all contract work has been satisfactorily completed. However, five ~~work~~*workable* days *during the months of April through November inclusive* will be allowed after notification from the Department to complete all corrective or clean up work necessary for final inspection. Thereafter, time will be charged for each day the work remains uncompleted. Further, 10 calendar days will be allowed after notification by the Department to remove all construction signs and temporary traffic control devices. Thereafter, time will be charged for each day the sign~~s~~ and device~~s~~ remain.

SECTION 202, BEGIN LINE 46, DELETE AND INSERT AS FOLLOWS:

Initial notification to IDEM shall be by certified mail, return receipt requested, or by hand delivery. Verification of this notification shall be provided to the Engineer. The Contractor shall provide such notification 10 ~~work~~*business* days prior to the date on which demolition or renovation operations are anticipated to begin. If the Contractor postpones the beginning date of demolition or renovation operations, IDEM shall be provided written notice of the new start date, postmarked at least five ~~work~~*business* days or delivered at least two ~~work~~*business* days before these operations begin. Verification of this notification shall also be provided to the Engineer.

SECTION 202, BEGIN LINE 285, DELETE AND INSERT AS FOLLOWS:

(a) In accordance with 202.02 and 326 IAC 14-10, a demolition/renovation notification is to be submitted to IDEM 10 ~~work~~*business* days prior to the start of demolition or renovation operations. During the 10 day period, IDEM may make a determination of the existence of asbestos materials. Local governmental agencies may have additional regulations that shall be followed. The Contractor shall contact the IDEM Office of Air Quality to determine what local agencies have regulations.

SECTION 205, BEGIN LINE 248, DELETE AND INSERT AS FOLLOWS:

On contracts requiring a CSGP inspections shall be performed at a minimum of once per calendar week, 24 hours prior to a qualifying rain event, or by the end of the next ~~work~~*business* day following every 1/2 in. or greater rain event. Rainfall shall be recorded using an on-site rain gauge and a log documenting rainfall total or a weather station representative of the project location and as approved by the Engineer. For specific areas

of the project which are permanently stabilized with vegetative cover at 70% density and no active erosion is present, inspections for that area can be reduced to once per month if approved by the Engineer in writing. A single inspection performed after a rain event shall satisfy the requirement for both the rain event and the weekly inspection. No more than three inspections shall be required in a calendar week. Inspections for these contracts shall stop once all disturbed areas are permanently stabilized, all temporary measures have been removed, and the NOT has been obtained.

SECTION 208, BEGIN LINE 35, DELETE AND INSERT AS FOLLOWS:

It may be necessary to finish shoulders after the pavement is opened to traffic. As a matter of safety to traffic, the pavement shall be kept as free as possible from shoulder material and equipment. The adjacent pavement over which traffic is being routed shall be cleaned at the close of each *day of* work ~~day~~.

SECTION 215, BEGIN LINE 67, DELETE AND INSERT AS FOLLOWS:

Where Type A-6 or Type A-7 soils are used or encountered, the surface shall be scarified to the specified depth prior to distribution of the chemical modifier. The chemical modifier shall be distributed uniformly by a cyclone, screw-type, or pressure manifold type distributor. If a slurry is used, the surface shall be scarified prior to the distribution of the slurry. The chemical modifier shall not be applied when wind conditions create problems in adjacent areas or create a hazard to traffic on any adjacent roadway. The spreading of the chemical modifier shall be limited to an amount which can be incorporated into the soil within the same *day of* work ~~day~~. If weather causes stoppage of work or exposes the chemical modifier to washing or blowing, additional chemical modifier may be spread when the work resumes.

SECTION 216, BEGIN LINE 27, DELETE AND INSERT AS FOLLOWS:

A mix design prepared in accordance with the geotechnical report shall be submitted to the Engineer for approval at least five ~~work~~*business* days before the CCF operations begin. A cellular concrete manufacturer/installer shall be selected from those shown on the QPL of CCF Manufacturers/Installers.

SECTION 217, BEGIN LINE 57, DELETE AND INSERT AS FOLLOWS:

The specified quantity of chemical modifier shall be spread on the surface. The chemical modifier shall be distributed uniformly by a cyclone, screw-type, or pressure manifold type distributor. Where Type A-7 soils are encountered, the soil shall be scarified prior to spreading the chemical modifier. The chemical modifier shall not be applied when wind conditions create problems in adjacent areas or create a hazard to traffic on any adjacent roadway. The spreading of the chemical modifier shall be limited to an a
mount which can be incorporated into the soil within the same *day of* work ~~day~~. The chemical modifier spreading rate shall be adjusted to the current soil moisture content. If weather causes stoppage of work or exposes the chemical modifier to washing or blowing, additional chemical modifier may be spread when the work resumes. Any materials wasted or disturbed by the Contractor's actions shall be repaired or replaced at no additional cost.

SECTION 306, BEGIN LINE 102, DELETE AND INSERT AS FOLLOWS:

Milled traveled way areas left open to traffic for longer than ~~five~~*seven* work*able* days will be assessed $1,600.00 per day per lane mile, or portion thereof, as liquidated damages, not as a penalty, but as damages sustained for each work*able* day that the milled area remains open to traffic.

Milled non-traveled way areas such as auxiliary lanes and shoulders left open to traffic for longer than ~~10~~*14* work*able* days will be assessed $800.00 per day per lane mile, or portion thereof, as liquidated damages, not as a penalty, but as damages sustained for each work*able* day that the milled area remains open to traffic.

SECTION 306, BEGIN LINE 139, DELETE AND INSERT AS FOLLOWS:

Milled traveled way areas left open to traffic for longer than ~~five~~*seven* work*able* days will be assessed $1,600.00 per day per lane mile, or portion thereof, as liquidated damages, not as a penalty, but as damages sustained for each work*able* day that the milled area remains open to traffic.

Milled non-traveled way areas such as auxiliary lanes and shoulders left open to traffic for longer than ~~10~~*14* work*able* days will be assessed $800.00 per day per lane mile, or portion thereof, as liquidated damages, not as a penalty, but as damages sustained for each work*able* day that the milled area remains open to traffic.

SECTION 306, BEGIN LINE 200, DELETE AND INSERT AS FOLLOWS:

Milled traveled way areas left open to traffic for longer than ~~five~~*seven* work*able* days will be assessed $1,600.00 per day per lane mile, or portion thereof, as liquidated damages, not as a penalty, but as damages sustained for each work*able* day that the milled area remains open to traffic.

Milled non-traveled way areas such as auxiliary lanes and shoulders left open to traffic for longer than ~~10~~*14* work*able* days will be assessed $800.00 per day per lane mile, or portion thereof, as liquidated damages, not as a penalty, but as damages sustained for each work*able* day that the milled area remains open to traffic.

SECTION 401, BEGIN LINE 411, DELETE AND INSERT AS FOLLOWS:

Planned HMA courses greater than 220 lb/sq yd placed under traffic, shall be brought up even with each adjacent lane at the end of each *day of* work ~~day~~. Planned HMA courses less than or equal to 220 lb/sq yd shall be brought forward concurrently, within practical limits, limiting the work in one lane to not more than one ~~work~~ day of production before moving back to bring forward the adjacent lane. Traffic shall not be allowed on open graded mixtures.

SECTION 401, BEGIN LINE 546, DELETE AND INSERT AS FOLLOWS:

All core locations will be marked and shall be cored within two work*able* days of placement. A damaged core shall be discarded and replaced with a core from a location selected by adding 1 ft to the longitudinal location of the damaged core using the same transverse offset.

SECTION 401, BEGIN LINE 595, DELETE AND INSERT AS FOLLOWS:

Within one work*able* day of coring operations, the Contractor shall clean, dry, and refill the core holes with either HMA of similar or smaller size particles or bridge deck repair material from the QPL of Rapid Setting Patch Materials. The rapid setting patch material shall be mixed in a separate container and placed in the hole in accordance with the manufacturer's recommendations, consolidated by rodding, and struck-off flush with the adjacent pavement.

SECTION 402, BEGIN LINE 185, DELETE AND INSERT AS FOLLOWS:

Planned HMA courses greater than 220 lb/sq yd placed under traffic shall be brought up even with each adjacent lane at the end of each *day of* work ~~day~~. Planned HMA courses less than or equal to 220 lb/sq yd shall be brought forward concurrently, within practical limits, limiting the work in one lane to not more than one ~~work~~ day of production before moving back to bring forward the adjacent lane. Traffic shall not be allowed on open graded mixtures.

SECTION 402, BEGIN LINE 307, INSERT AS FOLLOWS:

The Contractor shall obtain cores in the presence of the Engineer with a device that shall produce a uniform 6.00 ±0.25 in. diameter pavement sample. Coring shall be completed prior to the random location being covered. The final HMA course shall be cored within one work*able* day of placement. Damaged cores shall be discarded and replaced with a core from a location selected by adding 1 ft to the longitudinal location of the damaged core using the same transverse offset.

SECTION 410, BEGIN LINE 272, DELETE AND INSERT AS FOLLOWS:

Planned SMA courses greater than 220 lb/sq yd placed under traffic, shall be brought up even with each adjacent lane at the end of each *day of* work ~~day~~. Planned SMA courses less than or equal to 220 lb/sq yd shall be brought forward concurrently, within practical limits, limiting the work in one lane to not more than one ~~work~~ day of production before moving back to bring forward the adjacent lane.

SECTION 410, BEGIN LINE 352, INSERT AS FOLLOWS:

The Contractor shall obtain cores in the presence of the Engineer with a device that shall produce a uniform 6.00 ±0.25 in. diameter pavement sample. Surface courses shall be cored within one work*able* day of placement. Damaged core shall be discarded and replaced with a core from a location selected by adding 1 ft to the longitudinal location of the damaged core using the same transverse offset.

SECTION 410, BEGIN LINE 391, INSERT AS FOLLOWS:

Within one work*able* day of coring operations, the Contractor shall clean, dry, and refill the core holes with either SMA of similar or smaller size particles or bridge deck repair material from the QPL of Rapid Setting Patch Materials. The rapid setting patch material shall be mixed in a separate container and placed in the hole in accordance with the manufacturer's recommendations, consolidated by rodding, and struck-off flush with the adjacent pavement. The Contractor's plan for refilling core holes shall be outlined in the QCP.

SECTION 410, BEGIN LINE 493, INSERT AS FOLLOWS:

Cores shall be taken within seven calendar days unless otherwise directed. Additional core locations will be determined by adding 1 ft longitudinally of the cores tested using the same transverse offset. The cores will be dried in accordance with ITM 572 and tested in accordance with AASHTO T 166, Method A or AASHTO T 331, if required. The Contractor shall clean, dry, and refill the core holes with SMA or HMA surface materials within one work*able* day of the coring operations.

SECTION 501, BEGIN LINE 69, DELETE AND INSERT AS FOLLOWS:

The CMDS shall be used to conduct a trial batch in accordance with 501.06. Upon completion of the trial batch, the Contractor shall update the submitted CMDS to include the Contractor's and the Engineer's trial batch test results on the Department provided spreadsheet a minimum of three ~~work~~*business* days prior to production. Production shall not commence until the DTE has issued the concrete mix design for production, CMDP.

SECTION 501, BEGIN LINE 115, DELETE AND INSERT AS FOLLOWS:

The new CMDS shall be submitted to the DTE utilizing the Department provided spreadsheet a minimum of one ~~work~~*business* day prior to production. A trial batch or verification testing will not be required. Production shall not commence until the DTE has issued the CMDP.

SECTION 502, BEGIN LINE 51, DELETE AND INSERT AS FOLLOWS:

Any of the following changes or adjustments to a CMDP shall require a new CMDS to be submitted to the DTE, referencing the original CMDP. The new CMDS shall be submitted to the DTE utilizing the Department provided spreadsheet a minimum of one ~~work~~*business* day prior to production. Production shall not commence until the DTE has issued the CMDP.

SECTION 506, BEGIN LINE 79, DELETE AND INSERT AS FOLLOWS:

The CMDS shall be used to conduct a trial batch in accordance with 506.05. Upon completion of the trial batch, the Contractor shall update the submitted CMDS to include the Contractor's and the Engineer's trial batch test results on the Department provided spreadsheet a minimum of three ~~work~~*business* days prior to production. Production shall not commence until the DTE has issued the concrete mix design for production, CMDP.

SECTION 506, BEGIN LINE 117, DELETE AND INSERT AS FOLLOWS:

The new CMDS shall be submitted to the DTE utilizing the Department provided spreadsheet a minimum of one ~~work~~*business* day prior to production. A trial batch or verification testing is not required. Production shall not commence until the DTE has issued the CMDP.

SECTION 619, BEGIN LINE 88, DELETE AND INSERT AS FOLLOWS:

Prosecution of work shall be in accordance with the applicable requirements of 108.04. Once the cleaning and painting operations have begun, it shall be performed on all ~~work~~ days *of work* without stoppage until all work has been completed. If the contract contains more than one bridge, a schedule shall be included in the QCP which provides the

sequence of work on the bridges. Once work has begun on a bridge, it shall be performed until complete, including all cleanup. When cleaning and painting beam ends for encasement in concrete is specified, that work may be performed as a separate operation.

SECTION 701, BEGIN LINE 102, DELETE AND INSERT AS FOLLOWS:

The Contractor shall use the approved pile driving system. No changes shall be made without prior written approval from the Engineer, with the exception that the concrete pile cushion thickness may be increased to control driving stresses. A change in the pile driving system will only be considered after the Contractor has submitted a new pile and driving equipment data form. The Contractor will be notified of the acceptance of a proposed change in driving equipment within three ~~work~~*business* days of receipt of the pile and driving equipment data form. If the Engineer determines the Contractor's hammer is not functioning properly and is unable to drive the piles to the required penetration depth or nominal driving resistance, the hammer shall be removed from service.

SECTION 711, BEGIN LINE 1008, DELETE AS FOLLOWS:

A Skidmore-Wilhelm calibrator or other acceptable bolt tension indicating devices shall be required on the project site for use during bolt installation. Periodic tests shall be performed to ensure the installed bolt, nut, and washer assembly meets the above requirements. Such tests shall be performed each ~~work~~ day when calibrated wrench tightening is used. For short grip bolts, direct tension indicators with solid plates may be used to perform these tests. Direct tension indicators shall first be checked with a longer grip bolt in the Skidmore-Wilhelm calibrator.

SECTION 712, BEGIN LINE 152, DELETE AND INSERT AS FOLLOWS:

At the end of each ~~work~~ day *of work*, paint stains and splatters shall be removed from all surfaces not intended to receive the paint applied for that day.

SECTION 729, BEGIN LINE 78, DELETE AS FOLLOWS:

The Contractor shall notify the Engineer no later than the end of each ~~work~~ day of any base metal or weld metal defects that require additional treatment.

SECTION 801, BEGIN LINE 144, DELETE AND INSERT AS FOLLOWS:

Within ~~10~~*14* work*able* days on HMA open to traffic, the edge lines shall be placed and shall be maintained until the next lift of HMA is placed or the permanent lines are placed, as appropriate. On PCCP open to traffic, the edge lines shall be placed, within ~~10~~*14* work*able* days, and shall be maintained until the permanent lines are placed, as appropriate.

SECTION 801, BEGIN LINE 575, DELETE AND INSERT AS FOLLOWS:

Temporary pavement markings shall be new materials placed in accordance with 808.04 and 808.05. However, when temporary markings are to be in place for ~~10~~*14* work*able* or less the dashed line pattern used on center line and lane lines may be 4 ft line segments on 40 ft centers and gore areas shall be marked by outline only and may be 5 in. wide lines. No-passing zones on all undivided two-way roadways shall be identified with signs and centerline markings. Markings shall remain clearly visible during the day and night for a minimum of 200 ft ahead of a vehicle. All temporary markings shall be maintained and replaced until they are no longer applicable.

SECTION 801, BEGIN LINE 601, DELETE AND INSERT AS FOLLOWS:

Temporary pavement markings which are to be in service from December 1 through the following March 31 shall be painted markings. Such markings shall be placed in the standard pavement marking pattern and applied prior to the suspension of the work, or within ~~seven~~*ten*~~*ten*~~*10* work*able* days after the Contractor is directed to place the markings *including* ~~*any days in*~~*the months of December, January, February, and March.* Adjustments to these dates to accommodate actual seasonal suspension and continuance of work are subject to approval by the Engineer upon written request.

SECTION 802, BEGIN LINE 266, DELETE AND INSERT AS FOLLOWS:

Signs or support assemblies to be removed shall be removed within ~~five~~*seven* work*able* days after the required replacement signs or support assemblies are installed. Concrete foundations shall be removed to a minimum depth of 1 ft below the ground surface. After concrete foundations have been removed, the area shall be backfilled and seeded or sodded in accordance with 621, or treated with a material which matches that in the surrounding area.

SECTION 807, BEGIN LINE 123, DELETE AS FOLLOWS:

If possible, excavation for concrete foundations shall be accomplished by means of drilling with an auger of sufficient size to admit the width of the foundation. Work shall be so scheduled that all open excavations are poured with concrete during the ~~work~~ day they are dug. No excavations shall remain open over night or over a weekend or holiday. Accumulated water shall be removed from the excavation before concrete is poured. If class X material is encountered, foundation excavation shall be completed in accordance with 206.02(b).

various divisions, sections, and subsections (*see* list on previous page)

DISCUSSION:

This item was introduced and presented by Mr. Novak who stated that on all contracts, in accordance with 108.08, the project personnel are required to report on the controlling operation and the weather for each date which populates the weekly statement provided to the Contractor. This record is used to determine the scope and length of any Time Extensions which are owed to the Contractor for delays due to weather by assessing if a Contractor can be expected to perform meaningful work on the controlling operation on each day. However, the specification has been written around three different Contract Time types and does not clearly define what constitutes a workable day, but rather only defines a work day in 101.78. The work day definition is for use on work day contracts as defined in 108.08.

Mr. Novak proposed to define a workable day in the definitions and terms section of the specifications. Since Work Day type contracts are no longer being used, Mr. Novak proposes to delete all such references from the specifications where appropriate, and in some cases change the term to workable day where appropriate.
Each instance of work day was replaced with a different defined day as generally follows:

1. If work day is referring to the determination of contract time, workable day was used.
2. If work day is referring to a time involving groups or offices outside of construction, business day was used
3. If work day was referring to a maximum time, calendar day was used and the duration converted to an equivalent duration.

Mr. Koch stated that the historic language in 101.78 has confused some over the years where it is argued a Contractor could perform E&S clean-up or other non-critical path work as a workable day. The leading sentence addresses the concern but for clarity should 'However, if the weather is unsuitable for work at the normal starting time, and remains unsuitable for 2 h, such a day will be considered non-workable if the Contractor *cannot* work' be considered? Understand this would be a bit redundant. Similar revisions are as shown as recommended by Mr. Novak. Mr. Jacobs suggested revising the table in the AWP. Mr. Novak said they'll look into it.

Mr. Koch also asked - When should daily reports begin? It seems that the proposed language intends when physical work begins or after the ETB/ permitting date. 108.03 also requires 15 days after the NTP. Should the last sentence shown from 108.08 be amended? Perhaps "but no later than the date depicted in the schedule provided by the Contractor"?

Mr. Koch also stated that 'any days' reads a bit awkward. Perhaps "place the markings *including the months* of Dec,…". Other minor edits, by Mr. Novak, are as shown.

There was no further discussion and this item passed as revised.

[continued on the next page]

COMMENTS AND ACTION

various divisions, sections, and subsections (*see* list on previous page)

[continued]

Motion: Mr. Novak Second: Mr. Koch Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2024 Standard Specifications Sections: 101, 108; 200, 300, 400, 500, 600, 700, and 800. Recurring Special Provisions or Plan Details: various Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: 2.18.3	_X_ 2026 Standard Specifications ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: _X_ GIFE Update ___ Frequency Manual Update _X_ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There has been some internal confusion regarding requirements for the acknowledgement of loads of delivered material when implementing e-tickets.

PROPOSED SOLUTION: Revise and update the material delivery ticket requirements in both 106 and 109 of the specifications.

APPLICABLE STANDARD SPECIFICATIONS: 106, 109

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: 13.19

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc: Joe Novak, Kurt Pelz, Jacob Blanchard

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: N/A, propose for 2026 SS book only.

IMPACT ANALYSIS (attach report):

Submitted By: Joe Novak

Title: State Construction Engineer

Organization: INDOT

Phone Number: 317-501-7805

Date: 11/6/24

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Approved Materials List? No
Will this proposal improve:

- Construction costs? No
- Construction time? No
- Customer satisfaction? No
- Congestion/travel time? No
- Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

- For motorists? No
- For construction workers? No

Will this proposal improve quality for:

- Construction procedures/processes? Yes
- Asset preservation? No
- Design process? No

Will this change provide the contractor more flexibility? No

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

- Federal or State regulations? Yes
- AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: N/A

SECTION 106 – CONTROL OF MATERIAL
106.01(b)2. Delivery Ticket Information
SECTION 109 – MEASUREMENT AND PAYMENT
109.01(b) Scales and Measurement by Weight (Mass)

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 106, BEGIN LINE 62, DELETE AND INSERT AS FOLLOWS:

2. Delivery Ticket Information

The material delivery ticket shall include an itemized quantity of all materials delivered, the date of delivery, and the contract number. The material delivery ticket shall document the source of supply and source code, if known, and shall contain information necessary to obtain a basis for use as required by Department specifications. The material delivery ticket may be either a paper ticket or an electronic ticket, e-ticket.

When e-tickets are to be supplied, the Contractor shall either be approved to use the Department's e-ticketing system or request approval of the Engineer to use an alternate e-ticketing system. The approval of an alternate e-ticketing system shall warrant the following minimum requirements:

a. The Contractor shall provide a user guide document and answer questions as needed.

b. The Contractor shall provide the Department access to the e-ticket data in real-time via software compatible with both Apple macOS and Microsoft Windows desktop operating systems and both Apple iOS and Google Android mobile operating systems.

c. The Contractor shall provide the Department the ability to acknowledge the ~~acceptance~~*delivery* of e-tickets within both the desktop and the mobile systems *in real time*.

d. The system shall compile e-tickets into a single PDF format document by date and material description with the number of tickets per page limited to maintain legibility. The system shall also compile a PDF format e-ticket summary by date and material description with the total quantity delivered. E-tickets and summaries shall include ~~acceptance~~*the delivery* status input by the Department.

e. The Contractor shall provide software access to the Department for direct download of all e-tickets and summaries, or in the absence of such access, the Contractor shall be responsible for emailing the required documents.

f. The Department may request paper tickets at any time due to

system failures, cellular connectivity failures, or lack of reliability due to inaccuracy or inconsistency of the data provided.

All required certifications shall be in accordance with 916 or as directed.

SECTION 109, BEGIN LINE 103, INSERT AS FOLLOWS:

A duplicate ticket may be furnished by the Contractor for its records. The original, and duplicate if furnished, tickets will be signed at the point of incorporation into the work. *E-tickets, when used, shall be in accordance with 106.01(b)2.* No additional payment will be made for furnishing, maintaining, and operating scales.

COMMENTS AND ACTION

106.01(b)2. Delivery Ticket Information
109.01(b) Scales and Measurement by Weight (Mass)

DISCUSSION:

Mr. Novak introduced and presented this item explaining that there has been some internal confusion regarding requirements for the acknowledgement of loads of delivered material when implementing e-tickets.

Mr. Novak proposed to revise and update the material delivery ticket requirements in both 106 and 109 of the standard specifications.

Mr. Koch asked if concrete batch weight submittals could be added. Mr. Novak responded that the intent of the proposal was to not require any less than we do with paper tickets, just to clarify the additional requirements for e-tickets. We may need to strengthen language regarding batch weights in general. We may have to add something in Jan or Feb.

There was no further discussion and this item passed as submitted.

Motion: Mr. Novak Second: Mr. Koch Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** X Passed as Submitted ___ Passed as Revised ___ Withdrawn
2024 Standard Specifications Sections: 106 pg. 64-65; 109 pg. 104. Recurring Special Provisions or Plan Details: NONE Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: 13.19	X 2026 Standard Specifications ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: X GIFE Update ___ Frequency Manual Update ___ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Good Faith Efforts made when making Department approved DBE utilizations changes are not meeting timelines in the 49 CFR 26.53(g).

PROPOSED SOLUTION: Add the portion of the law to the specification to raise awareness.

APPLICABLE STANDARD SPECIFICATIONS: 103.01

APPLICABLE STANDARD DRAWING: n/a

APPLICABLE DESIGN MANUAL CHAPTER: n/a

APPLICABLE SECTION OF GIFE: 2.7.2 Field Control of Subcontractors

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: n/a

PAY ITEMS AFFECTED: n/a

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Kathryn Daniels, *Contract Compliance Program Manager,* Equity Initiative Services.

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: n/a, add to 2026 spec book.

IMPACT ANALYSIS (attach report): attached

Submitted By: Joe Novak

Title: State Construction Engineer

Division: Construction Management

E-mail: jnovak@indot.in.gov

Date: 11/20/24

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? no
Will approval of this item affect the Qualified Products List (QPL)? no
Will this proposal improve:

- Construction costs? no
- Construction time? no
- Customer satisfaction? no
- Congestion/travel time? no
- Ride quality? no

Will this proposal reduce operational costs or maintenance effort? no

Will this item improve safety:

- For motorists? no
- For construction workers? no

Will this proposal improve quality for:

- Construction procedures/processes? yes
- Asset preservation? no
- Design process? no

Will this change provide the contractor more flexibility? no

Will this proposal provide clarification for the Contractor and field personnel? yes

Can this item improve/reduce the number of potential change orders? no

Is this proposal needed for compliance with:

- Federal or State regulations? yes
- AASHTO or other design code? no

Is this item editorial? no

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

SECTION 103 – AWARD AND EXECUTION OF CONTRACT
103.01(c) Goal

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 103, BEGIN LINE 99, DELETE AND INSERT AS FOLLOWS:

The Contractor shall not terminate or reduce a commitment to a DBE, or an approved substitute DBE ~~firm~~, ~~that was~~ listed on the Affirmative Action Certification without the prior written consent of the Department. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Unless the Department provides written consent, the Contractor shall not be entitled to any payment for work or materials unless it is performed or supplied by the listed DBE. *Written consent will be provided based on the Contractor meeting all requirements outlined in 49 CFR 26.53, Department policy, and as stated herein. The Contractor shall make good faith efforts within seven business days of Department consent to obtain additional DBE participation.*

COMMENTS AND ACTION

103.01(c) Goal

DISCUSSION:
This item was introduced and presented by Mr. Novak who stated that Good Faith Efforts made when making Department approved DBE utilizations changes are not meeting the timelines in the 49 CFR 26.53(g).

Mr. Novak proposed to add the portion of the law to the specification to raise awareness.

There was no further discussion and this item passed as submitted.

Motion: Mr. Novak Second: Mr. Dave Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** X Passed as Submitted ___ Passed as Revised ___ Withdrawn
2024 Standard Specifications Sections: 103 pg. 16. Recurring Special Provisions or Plan Details: NONE Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: 2.7.2	X 2026 Standard Specifications ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: X GIFE Update ___ Frequency Manual Update ___ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Prestressed concrete NEXT Beams are an alternative to adjacent box beams that offer several advantages over box beams. This beam shape was developed by the Precast/Prestressed Concrete Institute Northeast, and has been successfully used for many years, predominantly in the northeast United States. INDOT has used this beam shape on three trial projects with positive results. The Standard Specifications and Standard Drawings don't currently cover this new beam shape, so the past trial projects relied on unique special provisions.

PROPOSED SOLUTION: Incorporate NEXT Beams in the Standard Specifications and Standard Drawings. Minor changes to concrete requirements for all precast and precast prestressed concrete structural members are also being proposed.

APPLICABLE STANDARD SPECIFICATIONS: Section 707

APPLICABLE STANDARD DRAWING: E 707-BPBF series

APPLICABLE DESIGN MANUAL CHAPTER: Forthcoming changes to Chapters 402, 403, 406, 409

APPLICABLE SECTION OF GIFE: 5.26 (no changes required)

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: N/A

PAY ITEMS AFFECTED: New pay items will be required for this new beam shape

APPLICABLE SUB-COMMITTEE ENDORSEMENT: INDOT/ASCE Structures Committee

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: N/A

IMPACT ANALYSIS (attach report):

Submitted By: Pete White

Title: Design Manager

Division: INDOT Bridge Engineering

E-mail: pewhite@indot.in.gov

Date: November 20, 2024

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Qualified Products List (QPL)? No
Will this proposal improve:

Construction costs? Yes
Construction time? Yes
Customer satisfaction? No
Congestion/travel time? Yes
Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? No
For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes
Asset preservation? Yes
Design process? Yes

Will this change provide the contractor more flexibility? No

Will this proposal provide clarification for the Contractor and field personnel? No

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

Federal or State regulations? No
AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

SECTION 707 – PRECAST CONCRETE AND PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS
707.02 Materials
707.04 Steel and Concrete Requirements
707.04(c)1. Self-Consolidating Concrete, SCC
707.06 Placing and Finishing Concrete
707.08 Handling and Shipping
707.12 Basis of Payment

(Note: Proposed changes shown highlighted gray and previously approved changes by the Standards Committee - light red)

The Standard Specifications are revised as follows:

SECTION 707, BEGIN LINE 38, INSERT AS FOLLOWS:

All precast concrete structural members which are not prestressed shall be manufactured by a precast concrete producer from the QPL of Certified Precast Concrete Producers. All precast prestressed concrete structural members including, but not limited to concrete box-beams, I-beams, U-beams, *NEXT beams,* and bulb-~~T~~*tees* ~~beams~~ shall be manufactured by a precast prestressed concrete producer from the QPL of Certified Precast Prestressed Concrete Producers.

SECTION 707, BEGIN LINE 116, DELETE AND INSERT AS FOLLOWS:

(c) Concrete

Concrete shall be air-entrained and shall have a minimum temperature of 50°F and a maximum temperature of 90°F at the time of placement. *The maximum temperature will be increased to 95°F if internal temperature monitoring sensors are used. The maximum concrete temperature during curing shall not exceed 158°F.* Concrete, herein referred to as conventional concrete, or self-consolidating concrete as specified below, shall be in accordance with the applicable requirements of 702.05. When a chemical admixture Type A, Type D, Type F, or Type G is used, it shall be used in combination with an air-entraining admixture. A high range water reducing, HRWR, or high range water reducing retarding, HRWRR, admixture system may be used. Chemical admixture types B, C, and E will only be allowed with prior written permission. Chemical admixture Type C and portland cement Type III shall not be used in the same concrete mixture. Air-entraining cement will not be allowed. The cement content of the mixed concrete shall be sufficient to obtain the specified minimum 28-day compressive strength. The total of portland cement and other cementitious materials shall be a minimum of 564 lb/cu yd and shall not exceed ~~820~~*850* lb/cu yd. Silica fume may be added in an amount not to exceed 5% of the total cementitious material.

~~SECTION 707, BEGIN LINE 163, DELETE AND INSERT AS FOLLOWS:~~

The absolute volume of the mix design shall be 27.0 cu ft per cu yd and shall meet the criteria in 707.04(c) and the following:

SCC PROPERTIES		
Physical Test	Specification	Requirement
Slump Flow	ASTM C1611	Design: 22~~*24*~~ in. to 28~~*30*~~ in. Tolerance: ±2 in.
Visual Stability Index (VSI)	ASTM C1611	0 or 1
Relative Viscosity, T_{50}	ASTM C1611	2 sec ≤ T_{50} ≤ 7 sec

SECTION 707 – PRECAST CONCRETE AND PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS
707.02 Materials
707.04 Steel and Concrete Requirements
707.04(c)1. Self-Consolidating Concrete, SCC
707.06 Placing and Finishing Concrete
707.08 Handling and Shipping
707.12 Basis of Payment

J-Ring	ASTM C1621	Difference between the slump flow and J-ring flow must be ≤ 2 in.
Static Segregation	ASTM C1712	≤ 1/2 in.
Column Segregation	ASTM C1610	≤ 12%
Water-cement ratio, max.	ITM 403	0.44
~~*Air Content*~~ ~~*SCC*~~ ~~*SCC with low permeability*~~	~~*AASHTO T 152*~~	 ~~*5.0% to 8.0%*~~ ~~*3.5% to 8.0%*~~

A trial batch of the proposed SCC mix design shall be conducted. All tests in the table above shall be performed. The SCC shall also be tested for air content and yield.

SECTION 707, AFTER LINE 345, DELETE AND INSERT AS FOLLOWS:

The vertical faces of top flanges on NEXT beams adjacent to closure pours shall have an exposed aggregate finish to facilitate the bond between the beam and closure pour concrete.

The tops of all beams and the outside faces and bottom flanges of the fascia beams shall be sealed in accordance with 709. The sealing requirement will be waived if the concrete meets the low permeability criteria specified in 707.04(c)1.

SECTION 707, BEGIN LINE 447, INSERT AS FOLLOWS:

707.08 Handling and Shipping

Precast concrete and precast prestressed concrete structural members shall not be subjected to excessive abuse which produces crushing or undue marring of the concrete. All structural members damaged during handling, storing, transporting, or erecting shall be replaced. Unless otherwise approved, precast concrete and precast prestressed concrete structural members shall be handled with a suitable hoisting device provided with a spreader sling. The spreader shall be of sufficient length to prevent horizontal forces being produced in the structural member due to lifting and shall be equipped with leads and hooks at each end. *NEXT beams shall be handled in a manner that minimizes twisting of the beams. NEXT beams shall be lifted by a minimum of four lifting points, two at each end of the beam, with a load equalizing device at one end of the beam that will prevent torsional forces in the beam during lifting.* Unless otherwise shown on the contract plans, the location of the lifting points along the tops of the beams shall be in accordance with the transportation support point requirements given herein. If any other method of handling is used, it shall be shown on the working drawings. If the method produces horizontal forces in the precast concrete or precast prestressed concrete structural member, design calculations shall be submitted showing resulting stresses. The design of the structural members shall be satisfactory to handle these stresses in accordance with AASHTO LRFD

Bridge Design Specifications. The structural members shall be lifted by the devices and procedures shown on the working drawings.

SECTION 707, BEGIN LINE 479, DELETE AND INSERT AS FOLLOWS:

During transportation, the structural members shall be supported with truck bolsters or battens no less than 4 in. wide which are padded with no less than 1/2 in. of rubber. The ends of I-beams, U-beams, and bulb-~~T~~*tee* ~~beams~~ shall extend no more than the depth of the beam and not more than 3 ft 6 in. beyond the supports. The ends of box~~-~~beams *and NEXT beams* shall extend no more than 1 1/2 times their depth and not more than 3 ft beyond the supports. *The supports at one end of NEXT beams shall be designed to allow the transportation vehicle to twist about its longitudinal axis independently from the beams, thereby eliminating the possibility of introducing torsional forces in the beams during transportation.* The ends of slabs shall extend no more than the depth of the beam beyond the supports.

Supports of cantilever beams shall be as shown on the plans. Trucks with double bolsters will be allowed, provided the beams are fully seated on the outer bolsters and the inner bolsters are no more than 8 ft from the ends of the beams. Wood blocks or other suitable material shall be placed under the tie chains to prevent chipping the concrete.

707.09 Placing Structural Members

If the method of lifting the structural members in the field differs from the method shown on the beam fabrication working drawings, the Contractor shall submit working drawings and calculations in accordance with 707.08. Erection of precast prestressed concrete structural members shall commence at the centerline and proceed out to the curb, one member at a time. As each structural member is placed, the transverse tie bars, if shown on the plans, shall be inserted and secured. Any shifting of the structural members shall be done while they are held free of the supports by the hoisting device. The use of a steel pinch bar will not be allowed. Structural members shall be set to proper line and grade with uniform bearing on bridge seats, mortar joints, or bearing pads as required on the plans. *Prestressed box beams and NEXT beams that are supported at two bearing locations on each end shall be shimmed as required to maintain a maximum gap anywhere between the bottom of beam and bridge seat no greater than 1/16 in. under the beam's own weight. The steel shims shall be in accordance with 915.04(b)2.*

When ~~required~~*shown on the plans*, ~~structural~~*prestressed box-beam* members shall be secured to the pier or bent with dowel rods. Holes for dowels shall be filled with mortar at fixed ends and with crack or joint filler at expansion ends. Longitudinal keyway joints shall be cleaned. A coat of cement mortar shall be scrubbed on the surface. The joint shall be filled with a non-shrinking grout composed of 1 part portland cement, 2 parts No. 23 fine aggregate, and an approved non-shrinking additive or a non-shrink, non-metallic

cementation grout in accordance with ASTM C1107. All bolts or drains shown on the plans as necessary or desirable to be placed in the concrete shall be placed by the methods and at the locations shown on the plans. Necessary tie rods, tie bolts, and hardware for tying structural members together shall be furnished.

SECTION 707, BEGIN LINE 553, DELETE AND INSERT AS FOLLOWS:

Pay Item	**Pay Unit Symbol**
Structural Member, Concrete, ____, ____ (type, size)	LFT

Reinforcing bars, WWR, prestressing strands, ~~elastomeric bearing pads, modifications to bearing pads, bearing beams required for box beams, bearing assemblies required for I-beams, bulb-T beams, U-beams, box beams, bearing plates,~~ *steel bearing assemblies for integral end bents, shim plates,* threaded reinforcing bars, threaded inserts in fascia beams, hex bolts, sealer on the outside face and bottom flange of fascia beams and on the tops of all beams, working drawings and design calculations, and necessary incidentals shall be included in the cost of the pay items of this section. *Elastomeric bearing pads, bearing assemblies, and bearing plates, will be paid for in accordance with 726.05.*

E 707-BPBF-01 FABRICATION TOLERANCES, INDEX, AND GENERAL NOTES (with shown markups)

INDEX	
SHEET NO.	SUBJECT
1	Fabrication Tolerances, Index, and General Notes
2	Fabrication Tolerances, Prestressed Box Beam
3	Fabrication Tolerances, Prestressed I-Beam and Bulb-Tee Beam
4	Fabrication Tolerances, Prestressed NEXT Beam

Symbols removed from general notes sheet.

Beam-specific tolerance notes moved to the applicable sheets

Local smoothness requirement moved from individual sheets to this sheet.

GENERAL NOTES:

1. Tolerances shown are maximum permissible variations from the dimensions shown on the plans or shop drawings. Tolerances shall not be considered cumulative. Longitudinal tolerances are based on design length. Casting length shall be adjusted to compensate for shrinkage and plastic flow.

2. Mild reinforcing steel concrete cover tolerance shall be +3/8 in. to -1/8 in.

3. Vertical camber shall be checked within 72 hours of transfer of prestressing force. Camber shall also be measured within three days prior to shipping and any exceedances shall be reported to the Engineer prior to shipping.

   Permitted camber variation from design camber is as follows:

   I-beam or bulb-tee beam:

   ±1/8 in. per 10 ft - 0 in. length, with

   - ±1/2 in. maximum for member length of 80 ft - 0 in. or less
   - ±1 in. maximum for member length of greater than 80 ft - 0 in.

   Box beam:

   ±1/8 in. per 10 ft - 0 in. length with ±1/2 in. maximum

4. Tolerance in length of beam shall be checked after the final curing phase and within three days prior to shipping.

5. Horizontal alignment tolerance shall be checked immediately after removal of forms and strand release, and prior to removal from bed.

6. At concrete bearing area, deviation from plane surface when tested in all directions of the plane surface with a steel straightedge shall not be more than ±1/8 in.

INDIANA DEPARTMENT OF TRANSPORTATION

FABRICATION TOLERANCES,
INDEX, AND GENERAL NOTES

SEPTEMBER 2022

STANDARD DRAWING NO. E 707-BPBF-01

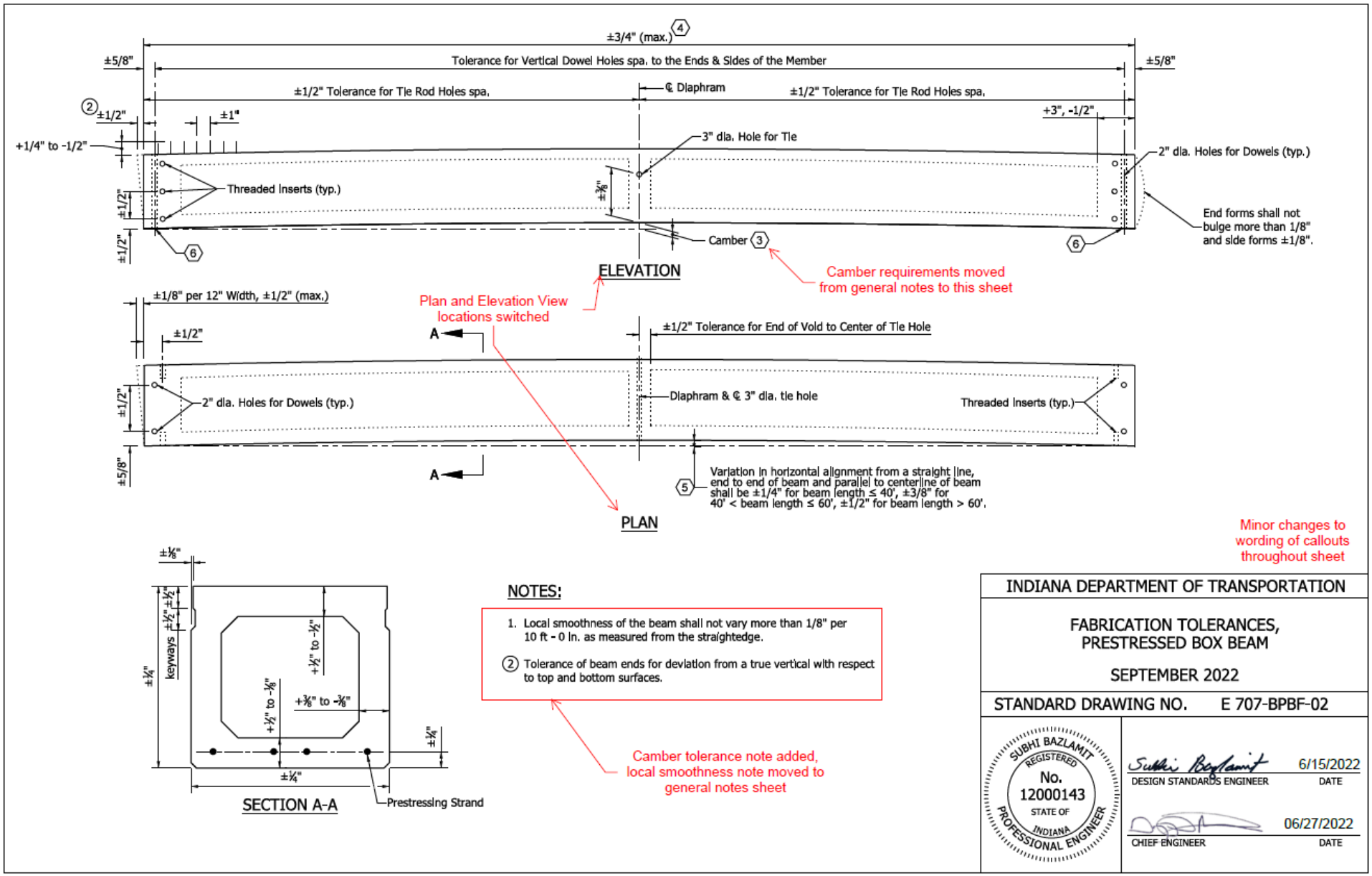
SUBHI BAZLAMIT REGISTERED No. 12000143 STATE OF INDIANA PROFESSIONAL ENGINEER

Subhi Bazlamit 6/15/2022
DESIGN STANDARDS ENGINEER DATE

06/27/2022
CHIEF ENGINEER DATE

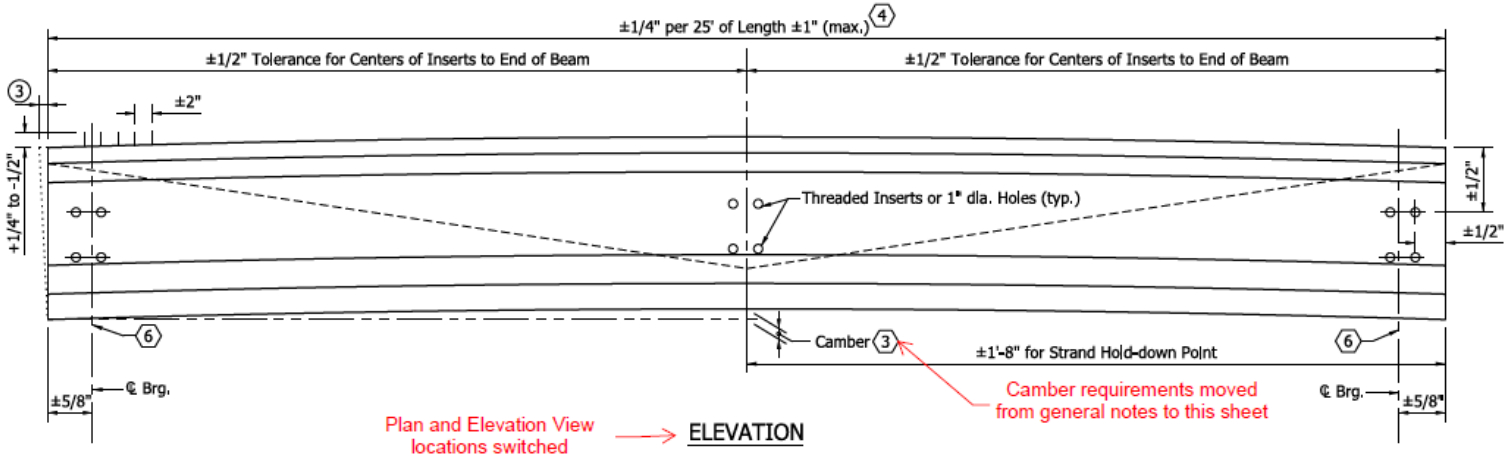
REVISION TO 2024 STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

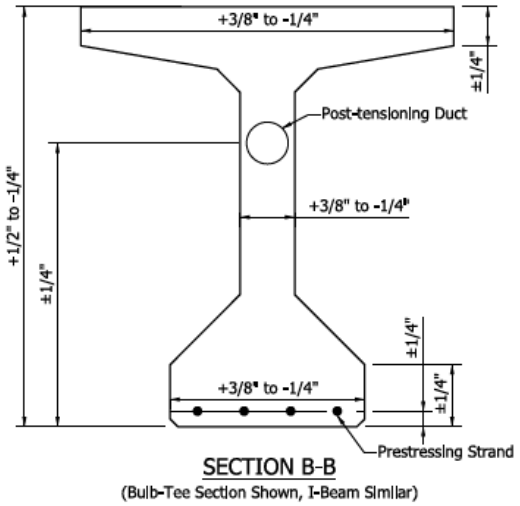
E 707-BPBF-02 FABRICATION TOLERANCES, PRESTRESSED BOX BEAM (with shown markups)



REVISION TO 2024 STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

E 707-BPBF-03 FABRICATION TOLERANCES, PRESTRESSED I-BEAM AND BULB-TEE BEAM (with shown markups)





NOTES:

1. Center of gravity of depressed-strands group at the end of the beam shall not be more than ±1/2 in.
2. Local smoothness of the beam shall not vary more than 1/8 in. per 10 ft - 0 in. as measured from a straight line.

3 Horizontal tolerance of beam ends for deviation from a true vertical with respect to top and bottom surfaces. Vertical tolerance shall be ±3/16 in. per 12 in. of beam height, 1 in. max.

Camber tolerance note added, local smoothness note moved to general notes sheet

Minor changes to wording of callouts throughout sheet

INDIANA DEPARTMENT OF TRANSPORTATION

FABRICATION TOLERACES,
PRESTRESSED I-BEAM AND BULB-TEE BEAM

SEPTEMBER 2022

STANDARD DRAWING NO. E 707-BPBF-03

SUBHI BAZLAMIT REGISTERED No. 12000143 STATE OF INDIANA PROFESSIONAL ENGINEER

Subhi Bazlamit 6/15/2022
DESIGN STANDARDS ENGINEER DATE

06/27/2022
CHIEF ENGINEER DATE

REVISION TO 2024 STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

E 707-BPBF-01 FABRICATION TOLERANCES INDEX AND GENERAL NOTES (proposed draft)

INDEX	
SHEET NO.	SUBJECT
1	Fabrication Tolerances Index and General Notes
2	Fabrication Tolerances Prestressed Box Beam
3	Fabrication Tolerances Prestressed I-Beam and Bulb-Tee Beam
4	Fabrication Tolerances Prestressed NEXT Beam

GENERAL NOTES:

1. Tolerances shown are maximum permissible variations from the dimensions shown on the plans or shop drawings. Tolerances shall not be considered cumulative. Longitudinal tolerances are based on design length. Casting length shall be adjusted to compensate for shrinkage and plastic flow.
2. Mild reinforcing bar concrete cover tolerance shall be +3/8 in. to -1/8 in.
3. Vertical camber shall be checked within 72 hours of transfer of prestressing force. Camber shall also be measured within three days prior to shipping and any exceedances shall be reported to the Engineer prior to shipping.
4. Tolerance in length of beam shall be checked after the final curing phase and within three days prior to shipping.
5. Tolerance in Horizontal alignment shall be checked immediately after removal of forms and strand release, and prior to removal from bed.
6. At concrete bearing area, deviation from plane surface when tested in all directions of the plane surface with a steel straightedge shall not be more than ±1/8 in.
7. Local smoothness of any surface shall not deviate from a 10 ft straightedge by more than 1/8 in.

INDIANA DEPARTMENT OF TRANSPORTATION

FABRICATION TOLERANCES
INDEX AND GENERAL NOTES

SEPTEMBER 2025

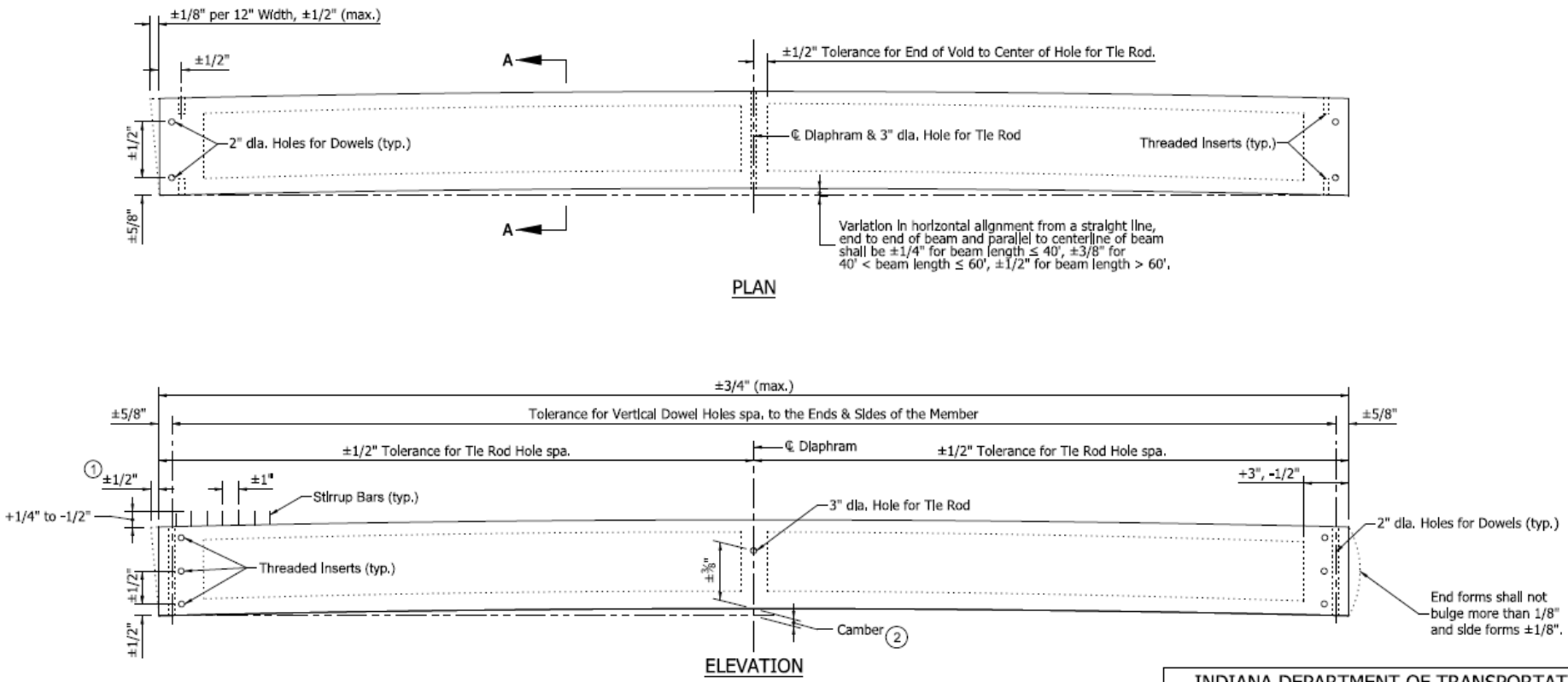
STANDARD DRAWING NO. E 707-BPBF-01

DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE

REVISION TO 2024 STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

E 707-BPBF-02 FABRICATION TOLERANCES PRESTRESSED BOX BEAM (proposed draft)



NOTES:

① Maximum variation from specified elevation end squareness or skew.

② Camber tolerance from camber shown on plans shall be ±1/8 in, per 10 ft length with ± 1/2 in, maximum

INDIANA DEPARTMENT OF TRANSPORTATION

FABRICATION TOLERANCES
PRESTRESSED BOX BEAM

SEPTEMBER 2025

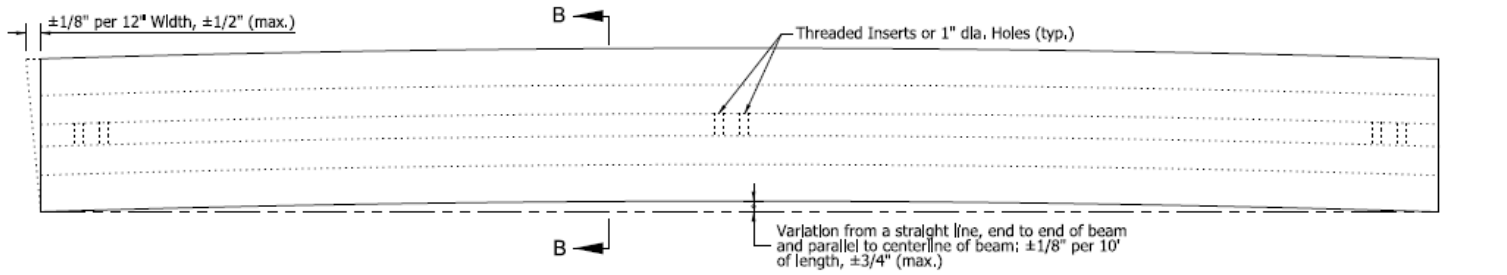
STANDARD DRAWING NO. E 707-BPBF-02

DESIGN STANDARDS ENGINEER DATE

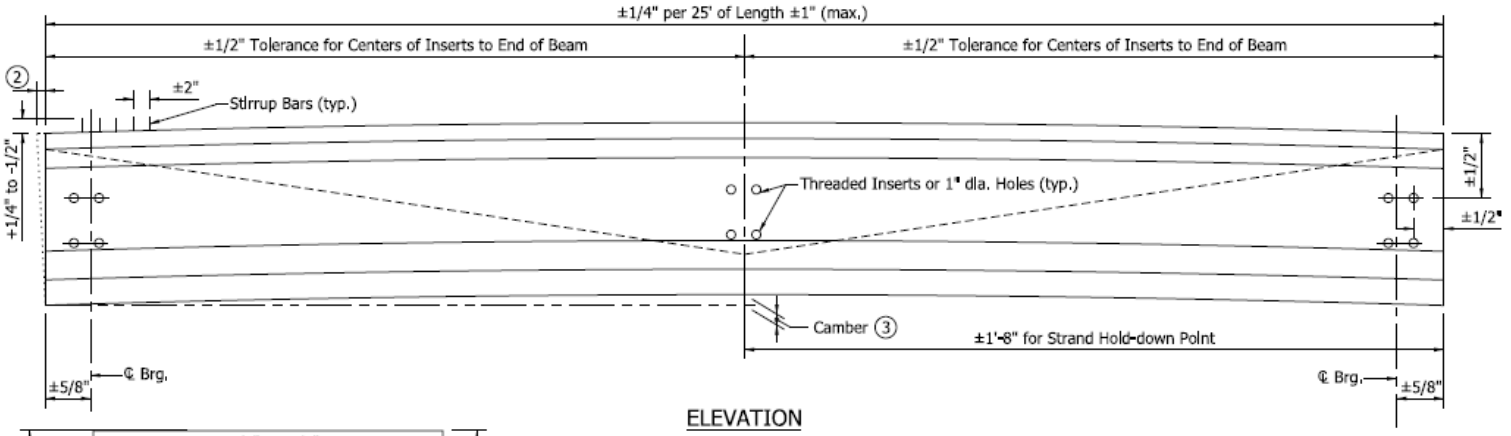
CHIEF ENGINEER DATE

REVISION TO 2024 STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

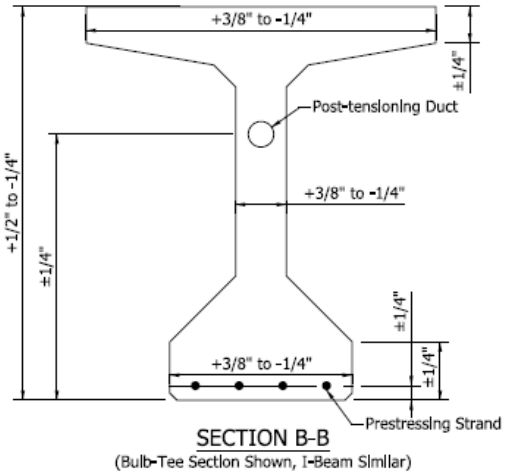
E 707-BPBF-03 FABRICATION TOLERANCES PRESTRESSED I-BEAM AND BULB-TEE BEAM (proposed draft)



PLAN



ELEVATION



SECTION B-B
(Bulb-Tee Section Shown, I-Beam Similar)

NOTES:

1. Center of gravity of draped strand group at the end of the beam shall not be more than ±1/2 in.
2. Maximum variation from specified elevation end squareness or skew shall be ±3/16 in. per 12 in. of beam height, 1 in. max.
3. Camber tolerance from camber shown on plans shall be ±1/2 in. maximum for bean length of 80 ft or less, ±1 in. maximum for beam length greater than 80 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

FABRICATION TOLERANCES
PRESTRESSED I-BEAM AND BULB-TEE BEAM

SEPTEMBER 2025

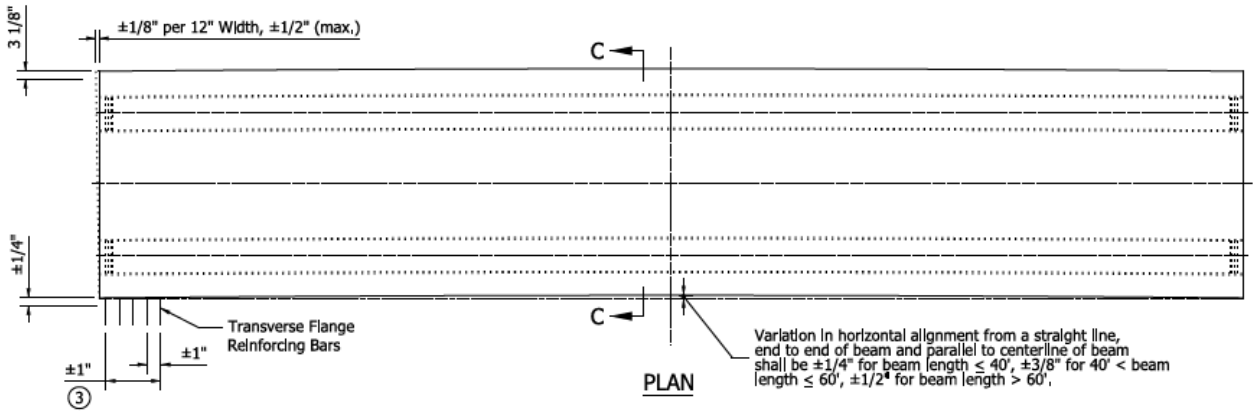
STANDARD DRAWING NO. E 707-BPBF-03

DESIGN STANDARDS ENGINEER DATE

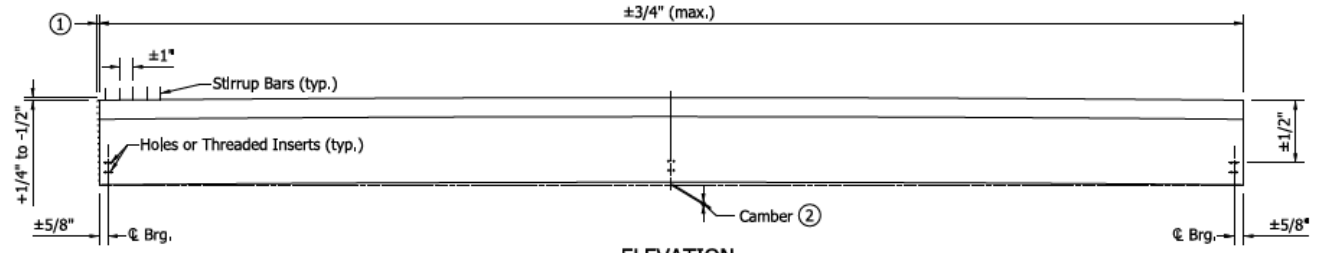
CHIEF ENGINEER DATE

REVISION TO 2024 STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

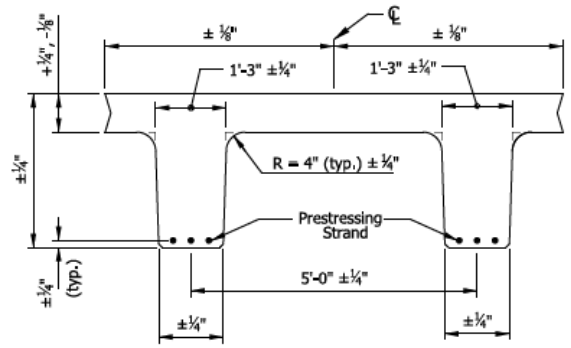
E 707-BPBF-04 FABRICATION TOLERANCES PRESTRESSED NEXT BEAM (proposed draft)



PLAN



ELEVATION



SECTION C-C

NOTES:

① Maximum variation from specified elevation end squareness or skew shall be ±1/8 in. per 12 in. of beam height, 1/2 in. max.

② Camber tolerance from camber shown on plans shall be ±1/8 in. per 10 ft length with ±1/2 in. maximum.

③ Spacing tolerance for transverse flange reinforcing bars that project beyond the edge of the top flange shall be measured relative to plan location of each bar and shall not be solely based on as-built location of the adjacent bars.

INDIANA DEPARTMENT OF TRANSPORTATION

FABRICATION TOLERANCES
PRESTRESSED NEXT BEAM

SEPTEMBER 2025

STANDARD DRAWING NO. E 707-BPBF-04

DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE

COMMENTS AND ACTION

707.02 Materials
707.04 Steel and Concrete Requirements
707.04(c)1. Self-Consolidating Concrete, SCC
707.06 Placing and Finishing Concrete
707.08 Handling and Shipping
707.12 Basis of Payment
E 707-BPBF-01 thru -04

DISCUSSION:
Mr. White introduced and presented this item, assisted by Mr. Nelson, explaining that prestressed concrete NEXT Beams are an alternative to adjacent box beams that offer several advantages over box beams. This beam shape was developed by the Precast/Prestressed Concrete Institute Northeast, and has been successfully used for many years, predominantly in the northeast United States. The Department has used this beam shape on three trial projects with positive results. The Standard Specifications and Standard Drawings don't currently cover this new beam shape, so the past trial projects relied on unique special provisions.

Mr. White proposed to incorporate NEXT Beams in the Standard Specifications and Standard Drawings. Minor changes to concrete requirements for all precast and precast prestressed concrete structural members are also being proposed.

Mr. Nelson suggested undoing the revisions to the table in 707, which will be addressed at a later date. Other minor editorial revisions were also incorporated regarding the twisting of the transportation vehicle independently of the beams, as shown.

There was no other discussion and this item passed as revised.

Motion: Mr. White Second: Mr. Reilman Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2024 Standard Specifications Sections: 707 pg. 663 - 676. Recurring Special Provisions or Plan Details: 726-B-323 BEARING ASSEMBLIES (Sunset - August 31, 2025. RSP will be incorporated into 2026 SS) Standard Drawing affected: E 707-BPBF series Design Manual Chapter: Forthcoming changes to Chapters 402, 403, 406, 409 GIFE Section: 5.26 (no changes required)	_X_ 2026 Standard Specifications _X_ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update _X_ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: All quality adjustments are in the 109.05.1 section except for an outlier in the 410 section. This was apparently missed when these were consolidated a few years ago.

PROPOSED SOLUTION: Incorporate the proposed changes shown in RSP 410-R-759 to move the quality adjustment into 109.05.1 with the rest of the quality adjustment items.

APPLICABLE STANDARD SPECIFICATIONS: 109.05.1, 410.22

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: existing RSP 410-R-759

PAY ITEMS AFFECTED: delete 410-xxxxx Quality Assurance Adjustment

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Derrick Hauser, Melissa Russell, Jim Reilman

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: unchanged from current BFU

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 11/26/24

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Approved Materials List? No
Will this proposal improve:

- Construction costs? N/A
- Construction time? N/A
- Customer satisfaction? N/A
- Congestion/travel time? N/A
- Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

- For motorists? N/A
- For construction workers? N/A

Will this proposal improve quality for:

- Construction procedures/processes? N/A
- Asset preservation? N/A
- Design process? N/A

Will this change provide the contractor more flexibility? N/A

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

- Federal or State regulations? No
- AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

(Note: Proposed changes shown highlighted gray)

410-R-759 QC/QA HMA – SMA PAVEMENT

(Revised 05-17-24)

The Standard Specifications are revised as follows:

SECTION 109, BEGIN LINE 783, INSERT AS FOLLOWS:

109.05.1 Quality Adjustments

Quality adjustments are those adjustments in the payment for work done or materials furnished and incorporated into the work which either exceed or fall below the standards established by the contract.

A change order will be prepared to reflect these adjustments. The unit price for these adjustments will be $1.00 and the quantities will be in units of dollars.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Quality Adjustments, _____ type	DOL

The dollars shown shall be the amount of the quality adjustments for the following types and may consist of plus or minus adjustments.

(a) HMA *and SMA*

Quality adjustments with respect to mixture, density, and smoothness for mixture produced will be computed in accordance with *either* 401.19 *or 410.19*.

SECTION 410, BEGIN LINE 24, DELETE AND INSERT AS FOLLOWS:

Asphalt Materials
PG Binder, PG ~~76-22, PG 70-22~~*58E-28* ..... 902.01(a)
Coarse Aggregates, Class AS..... 904.03
Fine Aggregates (sand, mineral filler)..... 904.02
Stabilizing Additives*..... AASHTO M 325
**The stabilizer shall be virgin cellulose or virgin mineral fiber.*

410.04 Design Mix Formula

A DMF shall be prepared in accordance with 410.05 and submitted in a format acceptable to the Engineer one week prior to use. The DMF shall state the maximum particle size in the mixture. The DMF shall state the calibration factor, test temperature and absorption factors to be used for the determination of binder content using the ignition oven in accordance with ITM 586, the binder content by extraction in accordance with ITM 571, ΔPb, determined in accordance with ITM 591, the aggregate degradation loss value in accordance with ITM 220 and a Mixture Adjustment Factor, MAF. The DMF ~~will~~*shall* be based on

the ESAL and mixture designation. No mixture shall be used until the DMF has been assigned a mixture number by the DTE. *The mixture number will be assigned for each calendar year. Assigning of a mixture number shall not in any way be construed as acceptance in conjunction with 401.19.*

The ESAL category ~~identified in the pay item correlates to the following ESAL ranges:~~*shall be ESAL Category 4 corresponding to greater than or equal to 10,000,000 ESALs.*

~~ESAL Category~~	~~ESAL~~
~~2*~~	~~< 3,000,000~~
~~3~~	~~3,000,000 to < 10,000,000~~
~~4*~~	~~≥ 10,000,000~~
~~* A category 2 mixture shall replace a category 1 mixture and a category 4 mixture shall replace a category 5 mixture.~~	

The plant discharge temperature for any mixture shall not be more than ~~315°F whenever PG 70-22 binder is used or not more than~~ 325°F ~~whenever PG 76-22 binder is used~~. SMA may be produced using a water-injection foaming device. The DMF shall list the minimum and maximum plant discharge temperatures as applicable to the mixture.

410.05 SMA Mix Design

The DMF shall be determined for each mixture from a SMA mix design by a design laboratory selected from the ~~Department's list of Qualified~~*QPL of HMA* Mix Design Laboratories. *A laboratory will be considered for inclusion on the QPL by following the procedure in ITM 574*. A SMA mixture shall be designed in accordance with ITM 220, AASHTO M 325 and AASHTO R 46 except the design gyrations shall be 75 for all ESAL categories.

All loose mixtures shall be conditioned ~~for 4 h~~ in accordance with AASHTO R 30 prior to testing~~.~~*, except as follows:*

(a) Mixtures shall be conditioned for 4 hours.

(b) SMA mixtures shall be conditioned at 300 ±5°F.

Steel furnace slag coarse aggregate, when used in an intermediate mixture application, shall have a deleterious content less than 4.0% as determined in accordance with ITM 219.

SECTION 410, BEGIN LINE 99, DELETE AS FOLLOWS:

A PG binder ~~grade or~~ source change will not require a new mix design. ~~If the upper temperature classification of the PG binder is lower than the original PG grade, a new TSR value is required.~~

SECTION 410, BEGIN LINE 110, INSERT AS FOLLOWS:

410.06 Recycled Materials

Recycled materials shall be in accordance with 401.06 for dense graded mixtures except *RAS shall not be used and* non-SMA RAP material for use in the SMA mixture shall be 100% passing the 3/8 in. (9.5 mm) sieve and 95 to 100% passing the No. 4 (4.75 mm) sieve.

SECTION 410, BEGIN LINE 260, DELETE AS FOLLOWS:

mechanical devices may be placed by other methods. The temperature of mixture at the time of spreading shall be no more than ~~315°F whenever PG 70-22 binder is used or no more than~~ 325°F ~~whenever PG 76-22 binder is used~~. The temperature of each mixture shall not be less than 245°F at the time of spreading when placed with paving equipment in accordance with 409.03(c)2 or 409.03(c)3. No mixture shall be placed on a previously paved course that has not cooled to less than 175°F.

SECTION 410, BEGIN LINE ~~525~~*507*, DELETE AND INSERT AS FOLLOWS:

410.22 Basis of Payment

The accepted quantities for this work will be paid for at the contract unit price per ton for QC/QA – HMA, of the type specified, – SMA, complete in place.

Payment for furnishing, calibrating, operating the inertial profiler, and furnishing IRI profile information will be made in accordance with 401.18.

Furnishing and operating the 16 ft straightedge shall be included in the cost of other pay items within this section.

Adjustments to the contract payment with respect to mixture, density, and smoothness for mixture produced will be included in a quality adjustment pay item in accordance with 109.05.1.

Joint adhesive will be paid for by the linear foot, complete in place.

~~Adjustments to the contract payment with respect to mixture, density, and smoothness for mixture produced will be included in a quality assurance adjustment pay item. The unit price for this pay item will be $1.00 and the quantity will be in units of dollars. The quantity is the total calculated in accordance with 410.19. A change order will be prepared to reflect contract adjustments in accordance with 109.05.~~

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Joint Adhesive, _____ course type	LFT
QC/QA - HMA, __*4*__, *58E*, _____ mm, - SMA (ESAL[(1)])(PG[(2)])(Course[(3)])(Mix[(4)])	TON
~~Quality Assurance Adjustment~~	~~DOL~~

(1) ESAL Category as defined in 410.04
(2) Number represents the high temperature binder grade. *Letter represents traffic loading designation.* Low temperature grade~~s~~ *is* - ~~22~~*28*
(3) Surface or Intermediate
(4) Mixture Designation

COMMENTS AND ACTION

410-R-759 QC/QA HMA – SMA PAVEMENT

DISCUSSION:
This item was introduced and presented by Mr. Reilman who pointed out that all quality adjustments are in the 109.05.1 section except for an outlier in the 410 section. This was apparently missed when these were consolidated a few years ago.

Mr. Reilman proposed to incorporate the proposed changes shown in RSP 410-R-759 to move the quality adjustment into 109.05.1 with the rest of the quality adjustment items.

There was no further discussion and this item passed as submitted.

Motion: Mr. Reilman Second: Mr. Novak Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** X Passed as Submitted ___ Passed as Revised ___ Withdrawn
2024 Standard Specifications Sections: 109.05.1 pg. 119; 410.22 pg. 364 - 365. Recurring Special Provisions or Plan Details: 410-R-759 QC/QA HMA – SMA PAVEMENT Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: NONE	X 2026 Standard Specifications X Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: X Revise RSP (No. 410-R-759) Effective: June 1, 2025 ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update X SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Liquid asphalt sealant may potentially be reducing the longevity of pavement markings. The SSC has decided to eliminate liquid asphalt sealant and to use VRAM in its place.

PROPOSED SOLUTION: Modify the language in the RSPs to eliminate all references to liquid asphalt sealant and require VRAM on all surface courses

APPLICABLE STANDARD SPECIFICATIONS: 401 and 410

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: NA

APPLICABLE RECURRING SPECIAL PROVISIONS: 401-R-750 and 410-R-751

PAY ITEMS AFFECTED: 401-11785, 401-10258

APPLICABLE SUB-COMMITTEE ENDORSEMENT: recommendation from SSC meeting

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
Required for all contracts with pay items: 401-12439, Void Reducing Asphalt Membrane for HMA or 410-12466, Void Reducing Asphalt Membrane for SMA.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT Materials and Tests

Phone Number: 317-522-9692

Date: 11/20/24

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? Y
Will approval of this item affect the Approved Materials List? N
Will this proposal improve:

Construction costs? N/A

Construction time? N/A

Customer satisfaction? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? Yes

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? N/A

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

Federal or State regulations? N

AASHTO or other design code? N

Is this item editorial? N

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

(Note: Proposed changes shown highlighted gray.
Last revision to this RSP was approved on October 17, 2024 SC meeting
with effective date: June 1, 2025)

401-R-750 VOID REDUCING ASPHALT MEMBRANE FOR HMA

(Revised 10-17-24)

The Standard Specifications are revised as follows:

SECTION 101, AFTER LINE 152, INSERT AS FOLLOWS:

VRAM *void reducing asphalt membrane*

SECTION 401, BEGIN LINE 446, DELETE AND INSERT AS FOLLOWS:

401.15 Joints

Longitudinal joints in the surface shall be at the lane lines of the pavement. Longitudinal joints below the surface shall be offset from previously constructed joints by approximately 6 in. and be located within 12 in. of the lane line.

Transverse joints shall be constructed by exposing a near vertical full depth face of the previous course. For areas inaccessible to rollers, other mechanical devices shall be used to achieve the required density.

If constructed under traffic, temporary transverse joints shall be feathered to provide a smooth transition to the driving surface.

(a) Hot Poured Joint Adhesive for Applications

Hot poured joint adhesive in accordance with 906 shall be applied to longitudinal joints constructed between two adjacent HMA courses in the top course of ~~*all category 2, 3 and 4* dense graded~~ intermediate mixture *courses*~~, and *all category 2 and 3 dense graded* 4.75 mm, 9.5 mm, and 12.5 mm surface mixture courses, *and all 4.75 mm surface mixture courses*~~. This includes joints within the traveled way as well as between any of the following:

(~~a~~*1*) traveled way and an auxiliary lane,
(~~b~~*2*) traveled way and a paved shoulder, and
(~~c~~*3*) auxiliary lane and a paved shoulder.

The material shall be heated in a jacketed, double boiler melting kettle. The kettle shall have an attached pressure feed wand system with applicator shoe.

The joint adhesive shall be applied to the face of the previously constructed edge at the joint using a wand applicator. Prior to application of the joint adhesive, the joint face shall be dry and free of loose material and foreign objects. The adhesive shall be applied on the joint face 1/8 in. thick at the temperature recommended by the manufacturer. Excess joint adhesive shall not be allowed to pool on the top of the previously constructed

pavement course or the pavement to be overlaid. The application of the adhesive shall be made within the same day, but at least 30 minutes prior to construction of the longitudinal joint.

~~All 9.5 mm and 12.5 mm surface mixture longitudinal joints that have the joint adhesive applied shall be sealed using SS-1h, RPE, or AE-NT asphalt emulsion in accordance with 902.01(b). The sealing operation shall not begin until all density cores in accordance with 401.16 and 401.20 have been obtained and the installation of pavement corrugations, when specified in accordance with 606, has been completed.~~

~~The liquid asphalt sealant shall be a minimum width of 24 in., centered on the joint line, and shall be extended, when necessary, to provide coverage beyond the edge of the pavement corrugation. The sealant shall be applied onto a dry surface, free of any foreign or loose material, using a distributor in accordance with 409.03(a). The sealant temperature at the time of application shall be at least 135°F and shall not exceed 180°F. The ambient air and pavement temperatures at the time of application shall be greater than 32°F.~~

~~The application rate of the sealant shall be as follows:~~

~~Asphalt Emulsion~~	~~Application Rate* (gal./sq yd)~~
~~SS-1h or AE-NT~~	~~0.03 ±0.01**~~
~~RPE~~	~~0.15 ±0.01***~~

~~* The asphalt material shall not be diluted.~~
~~** Areas receiving greater than 0.04 gal./sq yd shall be lightly broomed to reduce the effects of excess sealant on the pavement surface.~~
~~*** The application rate shall be reduced when sealing milled corrugations in accordance with 606. The application rate shall be 0.11 ±0.01 gal./sq yd.~~

~~Temporary pavement markings in accordance with 801.12 shall be offset a sufficient distance from the longitudinal joint so as not to obstruct the installation of the pavement corrugations or the application of the liquid asphalt sealant.~~

~~The SS-1h or AE-NT sealant shall be cured a minimum of five days prior to applying the permanent pavement traffic markings in accordance with 808. The RPE sealant shall be cured a minimum of 48 h prior to applying the permanent pavement traffic markings in accordance with 808. Where pavement markings are to be grooved in accordance with 808.07(b)1, the minimum cure for the sealant shall not apply.~~

~~Transverse joints shall be constructed by exposing a near vertical full depth face of the previous course. For areas inaccessible to rollers, other mechanical devices shall be used to achieve the required density.~~

~~If constructed under traffic, temporary transverse joints shall be feathered to provide a smooth transition to the driving surface.~~

~~SECTION 401, AFTER LINE 500, INSERT AS FOLLOWS:~~

(b) VRAM for Applications

VRAM, in accordance with 902 shall be applied under the area where a longitudinal joint will be formed in the top course of ~~all category 4 dense graded 9.5 mm and 12.5 mm~~ surface mixture courses. This shall include the area where a longitudinal joint will be formed within the traveled way, between the traveled way and an auxiliary lane, between the traveled way and a paved shoulder, and between an auxiliary lane and a paved shoulder.

Application of the VRAM material shall be with a distributor in accordance with 409.03(a) that is equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the tank to prevent localized heating. Material from a melting kettle may be dispensed through a pressure feed wand with an applicator shoe or through a pressure feed wand into a hand-operated thermal push cart used for transport and application. All transport and storage assets for the VRAM material shall be equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the tank to prevent localized heating.

Prior to the application of the VRAM, the existing surface to be treated shall be free of foreign materials deemed detrimental by the Engineer and shall also be dry and cleaned of all dust, debris and any substances that will prevent adherence. The VRAM may be placed before or after the tack coat. If after, the tack coat shall be fully cured prior to placement of VRAM.

The width and minimum application rate shall be in accordance with the following table:

VRAM Application Rate			
HMA Planned Lay Rate, lb/sq yd	*VRAM Width, in.*	*VRAM Application Rate, lb/ft**	*Coarse-graded mixture** VRAM Application Rate, lb/ft**
165	*18*	*0.95*	*1.26*
≥ 220	*18*	*0.95*	*1.51*
Tolerance		*±10%*	*± 10%*

* *The application rate has a surface demand for liquid included within it. The nominal thickness of the VRAM may taper from the center of the application to a lesser thickness on the edge of the application. The width and weight per foot shall be maintained. If the material is placed under a joint formed between two mixtures requiring different rates, the lower application rate shall be used.*

** *A coarse-graded mixture will be defined as a 9.5 mm mixture having less than 47% passing the No. 8 (2.36 mm) sieve or a 12.5 mm mixture having less than 39% passing the No. 8 (2.36 mm) sieve.*

The application shall be within 2 in. of being centered under the joint of the HMA course being constructed. When only half of the joint is exposed, the application shall be applied at half of the prescribed width, shall be adjacent to the center of the joint, and the vertical face of the cold joint left in place shall also be coated.

The Contractor shall furnish a bill of lading, to the Engineer, for each tanker supplying material to the project. The flow, application rate, and tracking of material will be verified within the first 1,000 ft of the day's scheduled application length and every 12,000 ft the remainder of the day. For projects less than 3,000 ft, the rate will be verified once. A suitable paper or pan shall be placed at a random location in the path of placement. The paper or pan shall be picked up and weighed after application to determine the weight per ft yield. The Contractor shall replace the VRAM in the areas where the samples were taken.

The VRAM shall be applied in a single pass. A distributor or melting kettle shall apply the material to within 1 1/2 in. of the width specified. Placement shall stop and remedial action shall be taken if the material flows more than 2 in. from initial placement. Release paper shall be placed over the previous application to prevent doubling the thickness when starting another run.

The VRAM shall be suitable for construction traffic to drive on without pickup or tracking within 30 minutes of placement. Placement shall stop and damaged areas shall be repaired if pickup or tracking occurs. The paver end plate and grade control device shall be raised above the finished height of the material prior to start of paving.

Cores for density determination shall be in accordance with 401.16 and 401.20 and shall not be taken within 12 in. of either the confined edge or the non-confined edge of the course placed where VRAM has been applied.

~~*Milled pavement corrugations, when specified in accordance with 606, shall be sealed using liquid asphalt sealant in accordance with 401.15(a) and 902.01(b).*~~

SECTION 401, BEGIN LINE 9~~13~~*73*, DELETE AND INSERT AS FOLLOWS:

Joint adhesive will be measured by the linear foot in accordance with 109.01(a). ~~Liquid asphalt sealant *and*~~ *VRAM for HMA* will be measured by the linear foot.

SECTION 401, BEGIN LINE 9~~30~~*93*, DELETE AND INSERT AS FOLLOWS:

Joint adhesive will be paid for at the contract unit price per linear foot, complete in place. ~~Liquid asphalt sealant will be paid for at the contract unit price per linear foot.~~ *VRAM for HMA will be paid for at the contract unit price per linear foot for full width applications. VRAM for HMA will be paid for at half the ~~contract unit price per~~ linear foot for half width applications.*

SECTION 401, AFTER LINE ~~1005~~*999*, DELETE AND INSERT AS FOLLOWS:

Inertial Profiler, HMA .....LS

Joint Adhesive, ~~_____~~ *Intermediate* .....LFT
~~course type~~
~~Liquid Asphalt Sealant.....LFT~~
QC/QA-HMA, _____, _____, _____, _____mm .....TON
(ESAL[(1)]) (PG[(2)]) (Course[(3)]) (Mix[(4)])
Void Reducing Asphalt Membrane for HMA .....LFT

(1) ESAL Category as defined in 401.04
(2) Number represents the high temperature binder grade. Low temperature grades are - 22
(3) Surface, Intermediate, or Base
(4) Mixture Designation

SECTION 606, BEGIN LINE 44, DELETE AS FOLLOWS:

606.02 Materials

Materials shall be in accordance with the following:

~~Liquid Asphalt Sealant.....902.01~~
Pavement Markings.....808

CONSTRUCTION REQUIREMENTS

606.03 General Requirements

In the presence of D-1 pavement joints or castings which conflict with the location of the corrugations, the corrugations shall be gapped a maximum of 5 ft and not within 6 in. of the joint or casting.

~~Corrugations installed on HMA shall be sealed using liquid asphalt sealant in accordance with 401.15.~~

SECTION 606, BEGIN LINE 99, DELETE AS FOLLOWS:

~~Where corrugations are placed in an existing HMA surface, liquid asphalt sealant shall be included in the cost of the pay items.~~

SECTION 808, BEGIN LINE 129, DELETE AS FOLLOWS:

(e) Markings in Retrofitted Corrugations

In sections where corrugations are being placed in the existing surface, all existing pavement markings shall be removed in accordance with 808.10 and any existing sealants shall be removed by routing or grinding. Temporary pavement markings placed in accordance with 801.12 shall be offset a sufficient distance from the longitudinal joint so as to not to obstruct the installation of the corrugations~~ or the application of the liquid asphalt sealant~~.

SECTION 902, AFTER LINE 121, INSERT AS FOLLOWS:

(f) VRAM

The asphalt material comprising the VRAM shall be in accordance with the following:

Characteristics	*Requirements*	*Test Method*
Dynamic shear @ 88°C (unaged), G/sin δ, kPa*	*1.00 min.*	*AASHTO T 315*
Creep stiffness @ -18°C (unaged), Stiffness (S), MPa m-value	*300 max. 0.300 min.*	*AASHTO T 313*
Ash, %	*1.0 - 4.0*	*AASHTO T 111*
Elastic Recovery, 100 mm elongation, cut immediately, 25°C, %	*70 min.*	*AASHTO T 301*
Separation of Polymer, Difference in °C of the softening point (Ring and Ball)	*3 max.*	*ASTM D7173, AASHTO T 53*

Elastomers shall be added to a base asphalt and shall be either a styrene-butadiene diblock or triblock copolymer without oil extension, or a styrene-butadiene rubber. Air blown asphalt, acid modification, or other modifiers will not be allowed.

VRAM shall be furnished by a supplier on the QPL of Performance-Graded Asphalt Binder Suppliers. A type A certification for the VRAM material shall be furnished in accordance with 916 and shall show the results of tests for the characteristics listed in the table above.

(Note: Proposed changes shown highlighted gray.
Last revision to this RSP was approved on October 17, 2024 SC meeting
with effective date: June 1, 2025)

410-R-751 VOID REDUCING ASPHALT MEMBRANE FOR SMA

(Revised 10-17-24)

The Standard Specifications are revised as follows:

SECTION 101, AFTER LINE 152, INSERT AS FOLLOWS:

VRAM *void reducing asphalt membrane*

SECTION 410, BEGIN LINE 303, DELETE AND INSERT AS FOLLOWS:

410.15 Joints

Longitudinal joints in the surface shall be at the lane lines of the pavement.

(a) Hot Poured Joint Adhesive for Applications

Hot poured joint adhesive in accordance with 906 shall be applied to longitudinal joints constructed between ~~two adjacent HMA courses in the top course of dense graded intermediate mixtures and~~ all ~~9.5 mm and 12.5 mm~~ SMA mixture *intermediate* courses *or longitudinal joints constructed between the SMA mixture intermediate courses and dense graded HMA intermediate courses*. This includes joints within the traveled way as well as between any of the following:

(~~a~~*1*) traveled way and an auxiliary lane,
(~~b~~*2*) traveled way and a paved shoulder, and
(~~c~~*3*) auxiliary lane and a paved shoulder.

SECTION 410, AFTER LINE 333, INSERT AS FOLLOWS:

(b) VRAM for Applications

VRAM in accordance with 902 shall be applied under the area where a longitudinal joint will be formed in the top course of all SMA surface mixture courses. This shall include the area where a longitudinal joint will be formed within the traveled way, between the traveled way and an auxiliary lane, between the traveled way and a paved shoulder, and between an auxiliary lane and a paved shoulder.

Application of the VRAM material shall be with a distributor in accordance with 409.03(a) that is equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the tank to prevent localized heating. Material from a melting kettle may be dispensed through a pressure feed wand with an applicator shoe or through a pressure feed wand into a hand-operated thermal push-cart used for transport and application. All transport and storage assets for the VRAM material shall be equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the tank to prevent localized heating.

Prior to the application of the VRAM, the existing surface to be treated shall be free of foreign materials deemed detrimental by the Engineer and shall also be dry and cleaned of all dust, debris and any substances that will prevent adherence. The VRAM may be placed before or after the tack coat. If after, the tack coat shall be fully cured prior to placement of VRAM.

The width and minimum application rate shall be in accordance with the following table:

VRAM Application Rate		
SMA Planned Lay Rate, lb/sq yd	*VRAM Width, in.*	*VRAM Application Rate*, lb/ft*
165	*18*	*1.26*
220	*18*	*1.51*
Tolerance		*± 10%*

* *The application rate has a surface demand for liquid included within it. The nominal thickness of the VRAM may taper from the center of the application to a lesser thickness on the edge of the application. The width and weight per foot shall be maintained. If the material is placed under a joint formed between a SMA mixture and a dense graded HMA mixture, the lower application rate shall be used.*

The application shall be within 2 in. of being centered under the joint of the course being constructed. When only half of the joint is exposed, the application shall be applied at half the prescribed width, shall be adjacent to the center of the joint, and the vertical face of the cold joint left in place shall also be coated.

The Contractor shall furnish a bill of lading, to the Engineer, for each tanker supplying material to the project. The flow, application rate, and tracking of material will be verified within the first 1,000 ft of the day's scheduled application length and every 12,000 ft the remainder of the day. For projects less than 3,000 ft, the rate will be verified once. A suitable paper or pan shall be placed at a random location in the path of placement. The paper or pan shall be picked up and weighed after application to determine the weight per foot yield. The Contractor shall replace the VRAM in the areas where the samples were taken.

The VRAM shall be applied in a single pass. A distributor or melting kettle shall apply the material to within 1 1/2 in. of the width specified. Placement shall stop and remedial action shall be taken if the material flows more than 2 in. from initial placement. Release paper shall be placed over the previous application to prevent doubling the thickness when starting another run.

The VRAM shall be suitable for construction traffic to drive on without pickup or tracking within 30 minutes of placement. Placement shall stop and damaged areas shall be repaired if pickup or tracking occurs. The paver end plate and grade control device shall be raised above the finished height of the material prior to start of paving.

Cores for density determination shall be in accordance with 401.16 and 401.20 and shall not be taken within 12 in. of either the confined edge or the non-confined edge of the course placed where VRAM has been applied.

SECTION 410, BEGIN LINE 505, INSERT AS FOLLOWS:

Joint adhesive will be measured by the linear foot in accordance with 109.01(a). *VRAM for SMA will be measured by the linear foot.*

SECTION 410, BEGIN LINE 517, INSERT AS FOLLOWS:

Joint adhesive will be paid for by the linear foot, complete in place. *VRAM for SMA will be paid for at the contract unit price per linear foot for full width applications. VRAM for SMA will be paid for at half the ~~contract unit price per~~ linear foot for half width applications.*

SECTION 410, ~~AFTER~~*BEGIN* LINE 5~~33~~*29*, *DELETE AND* INSERT AS FOLLOWS:

Joint Adhesive, ~~_____~~*Intermediate* .....LFT
~~course type~~

QC/QA - HMA, _____, _____, _____, _____ mm, - SMA .....TON
(ESAL[(1)])(PG[(2)])(Course[(3)])(Mix[(4)])

~~Quality Assurance Adjustment .....DOL~~

Void Reducing Asphalt Membrane for SMA .....LFT

(1) ESAL Category as defined in 410.04
(2) Number represents the high temperature binder grade. Low temperature grades are - 22
(3) Surface or Intermediate
(4) Mixture Designation

SECTION 902, AFTER LINE 121, INSERT AS FOLLOWS:

(f) VRAM

The asphalt material comprising the VRAM shall be in accordance with the following:

Characteristics	*Requirements*	*Test Method*
Dynamic shear @ 88°C (unaged), G/sin δ, kPa*	*1.00 min.*	*AASHTO T 315*
Creep stiffness @ -18°C (unaged), Stiffness (S), MPa m-value	*300 max.* *0.300 min.*	*AASHTO T 313*
Ash, %	*1.0 - 4.0*	*AASHTO T 111*
Elastic Recovery,		*AASHTO T 301*

100 mm elongation, cut immediately, 25°C, %	*70 min.*	
Separation of Polymer, Difference in °C of the softening point (Ring and Ball)	*3 max.*	*ASTM D7173, AASHTO T 53*

Elastomers shall be added to a base asphalt and shall be either a styrene-butadiene diblock or triblock copolymer without oil extension, or a styrene-butadiene rubber. Air blown asphalt, acid modification, or other modifiers will not be allowed.

VRAM shall be furnished by a supplier on the QPL of Performance-Graded Asphalt Binder Suppliers. A type A certification for the VRAM material shall be furnished in accordance with 916 and shall show the results of tests for the characteristics listed in the table above.

COMMENTS AND ACTION

401-R-750 VOID REDUCING ASPHALT MEMBRANE FOR HMA
410-R-751 VOID REDUCING ASPHALT MEMBRANE FOR SMA

DISCUSSION:

Mr. Reilman introduced and presented this item stating that liquid asphalt sealant may potentially be reducing the longevity of pavement markings. The SSC has decided to eliminate liquid asphalt sealant and to use VRAM in its place.

Mr. Reilman proposed to modify the language in the RSPs to eliminate all references to liquid asphalt sealant and require VRAM on all surface courses

In response to Mr. Koch's concerns, Mr. Awwad stated that the current number of distributors can handle the increase in 2025 and will give enough time for subs, and primes, to obtain the needed equipment.

Mr. Reilman withdrew this item pending further review and welcomed any comments.

Ms. Pastuszka, APAI, mentioned that they have no issue with the availability of materials, and wants to make sure that everyone understands where and how this work needs to be applied.

Motion: Second: Ayes: Nays: FHWA Approval:	**Action:** ___ Passed as Submitted ___ Passed as Revised _X_ Withdrawn
2024 Standard Specifications Sections: 401 pg. 301 - 330; 410 pg. 351 - 365. Recurring Special Provisions or Plan Details: 401-R-750 VOID REDUCING ASPHALT MEMBRANE FOR HMA 410-R-751 VOID REDUCING ASPHALT MEMBRANE FOR SMA Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: NONE	___ 2026 Standard Specifications ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: ___ Revise RSP (No._) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update ___ SiteManager Update