INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758 CM
Indianapolis, Indiana 46204

www.in.gov/indot

Eric Holcomb, Governor
Mike Smith, Commissioner

FINAL DRAFT MINUTES

December 16, 2022 Standards Committee Meeting

(Changes to the Agenda by the Action of the Committee shown as highlighted in yellow.
Changes to the First Draft Minutes shown highlighted green and are on pg.36.)

January 9, 2023

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the December 16, 2022 Standards Committee Meeting

The Standards Committee meeting was called to order by Mr. Pankow, Chair, at 09:00 a.m. on December 16, 2022, which was held virtually via *Teams* (Microsoft application). The meeting was adjourned at 10:15 a.m.

The following committee members were in attendance:

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

Also, presence of the following throughout the meeting was captured by the *Microsoft Teams*:

Bazlamit, Subhi M, INDOT
Bremer, Chip, TWC
Corrice, Zachariah, INDOT
Duncan, Thomas, FHWA
Fisher, Steve, INDOT
Nelson, Mike, INDOT
Osborn, Dan, ICI
Owen, Kris (quest)
Patterson, Patrick, INDOT
Podorvanova, Lana, INDOT

Harris, Tom, INDOT
Hauser, Derrick, INDOT
Leckie, John, IRMCA
McNutt, Donald, ACPA
Mouser, Elizabeth, INDOT
Mueller, Bart, INDOT
Ritter, John, INDOT
Smart, Steve (quest)
Thomas, Elizabeth, INDOT
Thornton, Donald, INDOT
Trammell, Scott, INDOT

The following items were discussed during the meeting:

A. GENERAL BUSINESS

OLD BUSINESS
(No items on this agenda)

NEW BUSINESS

1. *Approval of the Minutes from the November 18, 2022 meeting*

Mr. Pankow requested a motion to approve the Minutes from the November 18, 2022 meeting. Mr. Pankow stated that the Buy America-Build America special provision includes some 100% state projects, which can be implemented outside of the special provision. Mr. Reilman clarified that a portion of that item applies to state funded jobs, and a second special provision will be implemented for state funded projects.

Motion: Mr. Koch
Second: Mr. Novak
Ayes: 9
Nays: 0

ACTION: PASSED AS SUBMITTED

B. CONCEPTUAL PROPOSAL

2024 Standard Specifications (Division 700) editorial changes (K. Pelz) Proposal pg. 4.

Proposed changes "Conceptual Division 700" will be posted at:
https://www.in.gov/dot/div/contracts/standards/sc/

Mr. Pelz explained how we are in the process of cleaning up the existing language in the various spec sections
.

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

OLD BUSINESS
(No items on this agenda)

NEW BUSINESS

712.03	General Requirements
712.04	Caps
712.10	Two-Ply Plank Floors

ACTION: PASSED AS SUBMITTED

Item No. 2 (2022 SS) Mr. Reilman pg 11

Recurring Special Provision:

504-R-xxx	*LONGITUDINAL TINING*

ACTION: WITHDRAWN

Item No. 3 (2022 SS) Mr. Reilman pg 16

Recurring Special Provision:

738-B-297	WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE DECK SURFACES AND POLYMER OVERLAY SYSTEM FOR NON-BRIDGE DECKS

ACTION: PASSED AS SUBMITTED

Item No. 4 (2022 SS) Mr. Reilman pg 22

Recurring Special Provision:

601-R-750	GUARDRAIL

ACTION: PASSED AS REVISED

Item No. 5 (2022 SS) Mr. Novak pg 29

2022 Standard Specifications:

SECTION 111	STOCKPILED MATERIALS

ACTION: PASSED AS REVISED

Item No. 6 (2022 SS) Mr. Novak pg 42

2022 Standard Specifications:

206.01	Description
206.11	Basis of Payment

ACTION: PASSED AS REVISED

cc: Committee Members
FHWA
ICI

CONCEPTUAL PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: INDOT Standard Specifications have been in circulation since 1934 and have been regularly updated by adding new or revising existing statements, work procedures, materials, methods, etc.

Prior to publishing a 2024 Standard Specifications book (effective September 1, 2023), the review of the current edition is underway and a summary of proposed edits to the **DIVISION 700 – STRUCTURES** is shown.

PROPOSED SOLUTION (conceptual): Continue to review of all Divisions (100 thru 900) of the 2024 (draft) Standard Specifications and to make editorial (grammar) corrections as found necessary. Inform offices on questionable or outdated information and seek any necessary corrective action. Statements that are not clearly formulated or their written intentions are hard to follow have been rewritten, grammatical errors have been corrected and are proposed here for your review. Proposed revisions to Division 700 were made with this concept in mind and are shown here for your review.

APPLICABLE STANDARD SPECIFICATIONS: 2022 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: 11/28/2022

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There are a few outdated references to creosote in the specifications.

PROPOSED SOLUTION: delete the references to creosote and reference currently acceptable wood preservatives.

APPLICABLE STANDARD SPECIFICATIONS: 712

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION:

APPLICABLE SECTION OF GIFE:

APPLICABLE RECURRING SPECIAL PROVISIONS: None

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc: Jon Korff, Jim Reilman, AWPA Representatives

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

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 11/18/22

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? Yes
- 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? Yes
- Asset preservation? N/A
- 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? N/A

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:

DIVISION 700 – STRUCTURES
SECTION 712 – TIMBER STRUCTURES
712.03 General Requirements
712.04 Caps
712.10 Two-Ply Plank Floors

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 712, BEGIN LINE 32, DELETE AND INSERT AS FOLLOWS:

712.03 General Requirements

The ground ~~underneath~~*beneath* and in the immediate vicinity of all stored material shall be cleaned of weeds and rubbish and kept well drained. Lumber and timber at the site of the work shall be stored in piles. Untreated lumber shall be open stacked at least 12 in. above the ground surface, arranged to shed water and prevent warping, and protected by a weatherproof covering when so required. ~~Creosoted~~*Treated* timber and piling shall be closed-stacked so that warping is prevented, and the tops of the stacks are covered. Treated timber shall be handled carefully without sudden dropping, breaking of outer fibers, bruising, or penetrating surfaces with tools. It shall be handled with rope slings. Canthooks, peaveys, spikes, or hooks shall not be used. ~~Creosoted~~*Treated* piling may be handled with chains.

Workmanship shall be first-class throughout. Competent bridge carpenters shall be employed. All framing shall be true and exact. Nails and spikes shall be driven with just sufficient force to set the heads flush with the surface of the wood. Deep hammer marks in wood surfaces will be considered evidence of poor workmanship and sufficient cause for the dismissal of a worker causing them.

In structures of untreated timber, the ends, tops, and all contact surfaces of sills, caps, floor beams, stringers, end joints, contact surfaces of bracing, the back faces of bulkheads, and all timber which is to be in contact with earth, road material, or other timber shall be ~~coated with two coats of hot creosote oil~~ *field-treated with copper naphthenate in accordance with AWPA Standard M4* before being assembled. Countersinking shall be done where smooth faces are required. The recesses formed by countersinking shall be ~~painted with hot creosote oil and filled with hot pitch~~ *field-treated with copper naphthenate in accordance with AWPA Standard M4* after the bolt or screw is in place.

All cuts in treated piles or timber, ~~and~~ all abrasions, after having been trimmed, *and all holes for bolts or other appurtenances* shall be ~~covered with two applications of a mixture of 60% creosote oil and 40% roofing pitch, or brush coated with at least two applications of hot creosote oil and covered with hot roofing pitch~~*field-treated with copper naphthenate in accordance with AWPA Standard M4*. Insofar as practicable, cutting, framing, and boring of timber to be treated, except pile cut-offs, shall be done before treatment.

All lumber and timber shall be cut accurately and framed to a close fit in such manner that joints will have even bearing over the entire contact surfaces. Mortises shall be true and even for their full depth and tenons shall fit snugly. Shimming will not be

allowed in making joints nor will open joints be accepted. Timbers requiring an exact fit shall be matchmarked.

Holes for bolts, dowels, rods, and lag screws shall be bored as follows:

(a) machine bolts shall be the same diameter as the bolt;

(b) round drift bolts and dowels shall be 1/16 in. less in diameter than that of the bolt or dowel to be used;

(c) square drift bolts or dowels shall be equal to the least dimension of the bolt or dowel;

(d) rods shall be 1/16 in. larger than the rod; and

(e) lag screws shall be the screw diameter to the base of thread, and 1/2 the screw diameter to the point of the screw.

~~Before driving bolts, hot creosote oil shall be poured into all bolt holes so that the entire surface of the hole is coated. Any unfilled holes, after being treated with creosote oil, shall be plugged with creosoted plugs.~~

A washer of the size and type specified shall be used under each bolt head and under each nut which would otherwise come in contact with wood. Any portion of a bolt projecting more than 1/4 in. beyond the nut shall be cut off. The threads of each bolt shall be checked at the face of the nut after the nut has been finally tightened. The ends of bracing shall be bolted through the pile, post, or cap with bolts of no less than 5/8 in. in diameter. Intermediate intersections shall be bolted or spiked with wire or boat spikes as shown on the plans.

712.04 Caps

Timber caps shall have an even and uniform bearing over the tops of supporting posts or piles and shall have their ends evenly aligned. All caps shall be secured by drift bolts of no less than 3/4 in. in diameter extending at least 9 in. into the approximate center of posts or piles. Pile heads, after being cut to receive the caps and prior to placing the caps, shall be treated *with copper naphthenate in accordance with AWPA Standard M4* to prevent decay. ~~The sawed surfaces of creosoted piles shall be covered with three applications of a mixture of 60% creosote oil and 40% roofing pitch or brush coated with three applications of hot creosote oil and covered with hot roofing pitch. A covering of medium weight roofing felt or galvanized iron shall be placed on this treatment, bent over the sides of the pile, and fastened securely. Edges shall be trimmed to present a satisfactory appearance. The sawed surfaces of untreated piles shall be brush coated with two~~

DIVISION 700 – STRUCTURES
SECTION 712 – TIMBER STRUCTURES
712.03 General Requirements
712.04 Caps
712.10 Two-Ply Plank Floors

~~applications of hot creosote oil.~~

SECTION 712, BEGIN LINE 172, DELETE AND INSERT AS FOLLOWS:

712.10 Two-Ply Plank Floors

These floors shall consist of two layers of wood planks supported by stringers or joists. Both courses shall have been pressure treated *in accordance* with ~~creosote oil~~*911.02*. The top course shall be laid parallel to the roadway centerline with each piece fastened securely to the lower course. The lower course shall be fastened as provided above for single-ply. Joints shall be staggered at least 3 ft. Ends shall be fastened securely. If required, the outer ends of the top planks shall be beveled at each end of the bridge.

COMMENTS AND ACTION

712.03 General Requirements
712.04 Caps
712.10 Two-Ply Plank Floors

DISCUSSION:
This item was introduced and presented by Mr. Reilman who stated that there are a few outdated references to creosote in the specifications.

Mr. Reilman proposed to delete the references to creosote and reference only currently acceptable wood preservatives. Mr. Bremer, from the Treated Wood Council, confirmed the proposed revisions, which were generated by the Treated Wood Council.

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

Motion: Mr. Reilman Second: Mr. Novak Ayes: 9 Nays: 0 FHWA Approval: Yes	**Action:** _X_ Passed as Submitted ___ Passed as Revised ___ Withdrawn
2022 Standard Specifications Sections referenced and/or affected: 712 begin pg 713. Recurring Special Provisions or Plan Details: NONE Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_X_ 2024 Standard Specifications ___ Revise Pay Items List ___ Create RSP (No.___) Effective: ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update ___ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The current transverse tining operation must be done manually, with varying results, and results in the creation of pavement noise.

PROPOSED SOLUTION: Change to longitudinal tining. This is a mechanical operation that should be more consistent and uniform. Also there is less noise (and noise pollution) from the pavement as compared to transverse tining.

APPLICABLE STANDARD SPECIFICATIONS: 504, 508

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE:

APPLICABLE RECURRING SPECIAL PROVISIONS: create new 504 RSP

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: INDOT/ACPA of Indiana Subcommittee

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
Required for all contracts except mowing, herbicide, sweeping, light bulb replacement, or tree removal/trimming.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 11/18/22

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? Yes. sections reference back to 504.
Will approval of this item affect the Approved Materials List? No
Will this proposal improve:

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

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

Will this item improve safety:

For motorists? N/A
For construction workers? Yes

Will this proposal improve quality for:

Construction procedures/processes? Yes
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? N/A

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)

504-R-xxx LONGITUDINAL TINING

The Standard Specifications are revised as follows:

SECTION 504, BEGIN LINE 29, DELETE AND INSERT AS FOLLOWS:

The PCCP surface shall be textured with a double thickness burlap drag or a minimum 4 ft wide turf drag.

The textured surface of PCCP shall be *longitudinally* tined, unless otherwise specified. Tining shall ~~consist of transverse grooves that are between 3/32 and 1/8 in. in width, between 1/8 and 3/16 in. in depth, and be spaced as follows: 5/8 in., 1 in., 7/8 in., 5/8 in., 1 1/4 in., 3/4 in., 1 in., 1 in., 1 in., 1 in., 3/4 in., 7/8 in., 1 3/4 in., 7/8 in., 3/8 in., 1 in., 1 in., 1 1/4 in., 1 1/2 in., 7/8 in., 3/4 in., 7/8 in., 1 in., 7/8 in., 1 in. The grooving pattern shall be repeated across the pavement. The grooves shall be formed in the plastic concrete without tearing the surface and without bringing pieces of the coarse aggregate to the top of the surface.~~*be completed in the longitudinal direction using an approved mechanical device in accordance with 508.06 that produces a uniform groove spacing 3/4 in. apart, 1/8 in. wide, and 1/8 in. ±1/16 in. deep. The mechanical device shall be able to groove the full width of the pavement in one operation. String line or other controls for line and grade shall be used to ensure straight tining texture parallel with the direction of travel. For tight working areas where field conditions limit the use of mechanical devices, as determined by the Engineer, the Contractor may request to use a manual steel tine hand tool that is in accordance with 508.06.*

The Contractor shall oversee the tining operation to ensure the forming of straight, uniform grooves. Any wander and overlap of the grooves, and any wavy pattern in the grooves shall be prevented. The Contractor shall not tine within 3 in. of pavement edges or longitudinal joints. The Contractor shall not allow the groove edges to slump at the edges or severely tear the concrete surface.

Texturing and curing operations may be performed by a single machine subject to satisfactory performance.

Areas of PCCP which are not finished in accordance with these requirements shall be corrected by retexturing.

Retexturing shall consist of cutting longitudinal ~~or transverse~~ grooves in the PCCP surface by means of saw blades or other approved devices. The grooves shall be spaced 3/4 in. center to center and be 1/8 in. in width and depth. Alternative patterns may be used, subject to approval. The PCCP surface, after cutting, shall not be polished.

SECTION 508, BEGIN LINE 217, DELETE AND INSERT AS FOLLOWS:

508.06 Texturing Equipment

~~Mechanical texturing equipment~~*The mechanical device* shall ~~be capable of forming transverse~~*have horizontal and vertical controls to ensure the forming of straight, uniform*

longitudinal grooves of uniform depth and alignment in the plastic PCCP, without tearing the surface. The ~~texturing comb~~*mechanical device* shall have *a single row of* steel tines spaced as specified.

Hand tools consisting of fluted floats, rakes with spring steel tines, or finned floats with a single row of fins shall produce grooves which conform to the same requirements as those specified for the grooves formed by the mechanical ~~equipment~~*device*.

COMMENTS AND ACTION

504-R-xxx LONGITUDINAL TINING

DISCUSSION:

Mr. Reilman introduced and presented this item explaining that the current transverse tining operation must be done manually, with varying results, and results in the creation of pavement noise.

Mr. Reilman proposed to change to longitudinal tining. This is a mechanical operation that should be more consistent and uniform. Also, there is less noise, and noise pollution, from the pavement as compared to transverse tining.

Mr. Reilman stated that due to a request from ACPA-Indiana to have more time to review the proposal, specifically how to address tining on shoulders, widening areas, and ramps, I will be withdrawing this item. However before officially withdrawing the item, I would like to inquire of those on the call if there are any other questions or concerns that we should also consider. We desire to get this change in the 2024 book, so we'll be looking to have a quick turnaround and resubmit this item for the January meeting agenda.

Mr. Leckie said that he appreciated that the timeliness of getting this in and we greatly appreciate this. This is something that's been long, long, long in coming. Contractors are hugely supportive. There is some concern about mainline pavement, anything that is consistent, shoulders, whatever, that they can do with their equipment. It comes down to what do we do with variable width situations. And in that case and what's currently being discussed is to have longitudinal tining being done on poor pavement. Pavement that's not inconsistent in width and then do transverse timing on. Ramps and tapers, that you would have a variable nature in the width. So working with the contracting community to go ahead and submit something for INDOT's consideration. Mr. Pankow suggested involving Ms. Thomas and Mr. Bazlamit. Mr. Koch mentioned that timing could be an issue as well. Mr. Koch stated that for gap pours where we're doing bridge approach slabs or the associated concrete pavement that comes off of it, you're probably not going to have a large mechanical machine with that and it would fall under the hand type of application for the longitudinal tining. Traditionally, when you go transverse, the crews can perform the tining at the correct time. When you go longitudinal, it can be a little bit more difficult for those slow applications of getting the right tine. Mr. White suggested allowing it on bridge decks and approaches.

Motion: Second: Ayes: Nays: FHWA Approval:	**Action:** ___ Passed as Submitted ___ Passed as Revised _X_ Withdrawn
2022 Standard Specifications Sections referenced and/or affected: 504.03 begin pg 430, 508.06 pg. 468. Recurring Special Provisions or Plan Details: NONE Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	___ 2024 Standard Specifications ___ Revise Pay Items List ___ Create RSP (No.___) Effective: ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update ___ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The threshold limit for requiring warranty work for spalling is too large.

PROPOSED SOLUTION: Incorporate a definite area in addition to a percentage of deck area into the existing RSP.

APPLICABLE STANDARD SPECIFICATIONS: None

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: existing RSP 738-B-297

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: ad hoc: Jim Reilman, Pete White

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

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 11/21/22

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? Yes
Congestion/travel time? N/A
Ride quality? Yes

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? Yes
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 in affected sections only and highlighted gray.)

The full version of provision 738-B-297:
https://www.in.gov/dot/div/contracts/standards/rsp/sep21/700/738-B-297%20230301.pdf

738-B-297 WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE DECK SURFACES AND POLYMER OVERLAY SYSTEM FOR NON-BRIDGE DECKS

(Revised 09-15-22)

The Standard Specifications are revised as follows:

SECTION 737, AFTER LINE 154, INSERT AS FOLLOWS:

[_738.04 Equipment_]

(c) Polymer Mixing and Distribution Equipment

Polymer mixing and distributing equipment shall, at a minimum, consist of a truck-mounted, temperature-controlled polymer mixing and distribution system capable of accurately blending the resin and hardening components of the polymer system. The mixing and distributing system shall include thermostat heating element-controlled mixing capability. Each component of the polymer shall be in a tote made of a translucent material and shall be supplied by a pump. Wheelbarrows shall not be used as a polymer mixing and distribution system.

The amount of the resin and hardener components shall be continuously and independently measured with flow meters prior to mixing. Mixing shall be in-line and produce a continuous stream of mixed polymer at the manufacturer's required proportioning prior to exiting the dispensing nozzle. The mixing equipment may be either a truck mounted mechanical mixer or the material may be mixed by a static mixer contained in the wand applicator.

1. Hand Applications

Notched squeegees with 3/16 in. deep notches and 1/2 in. nap rollers shall be used to distribute the mixed polymer.

2. Mechanical Applications

The mixing equipment and distribution system shall automatically and accurately proportion the components in accordance with the manufacturer's recommendations, mix, and continuously apply the mixed polymer uniformly and accurately to the work area at the specified rate.

(d) Aggregate Distribution Equipment

The aggregate distribution system shall consist of a truck-mounted air-blown pneumatic spreader using oil-free compressed air in accordance with 738.04(b). The spreader shall apply the aggregate to the surface in a uniform manner. Chip spreaders, salt spreaders, or other rotary-type spreaders shall not be used.

738.05 Preparation of Concrete Surfaces

(a) Removal of Existing Polymer Overlay System from Concrete Surfaces

When an existing polymer overlay system is to be removed from concrete surfaces, the removal shall be performed with a milling machine affixed with a fine milling drum. The teeth spacing on the fine milling drum shall not exceed 5/16 in. Removal in areas that are inaccessible to the milling machine shall be performed by shot blasting, hand grinding, scarification, scabbling, or chipping using a maximum 30 lb chipping hammer.

Once the existing polymer overlay system has been removed, the resulting concrete surface shall be prepared in accordance with 738.05(b) if the concrete surface is to receive another polymer overlay system, or prepared in accordance with 722.06(b) if the concrete surface is to receive a concrete bridge deck overlay.

(b) Removal of Existing Concrete Surface

~~All~~The existing concrete surface ~~texture and an additional depth below that as needed~~ shall be removed with equipment in accordance with 738.04(a) until a macrotexture producing a concrete surface preparation, CSP, value of 7 in accordance with the International Concrete Repair Institute, ICRI, Guideline 310.2R, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair has been achieved. The Contractor shall provide a set of the CSP chips for the Engineer's use on the project. The CSP chip set shall remain the property of the Contractor.

Compressed air used for shot blasting activities shall be in accordance with 738.04(b).

[_738.14 Warranted Conditions and Warranty Work

(c) Warranty Work_]

1. Condition Parameters

Condition parameters identified in the table below will be used to determine the performance of the polymer overlay system during the warranty period. Each condition parameter has a threshold limit applied to each structure and a maximum percentage of defects allowed before warranty work or corrective action is required.

If one or more of the following threshold limits for condition parameters listed in the table below is exceeded, warranty work will be required and shall be performed. Warranty work shall be performed prior to conclusion of the warranty period or within such other time frame as agreed to between the Department and the Contractor unless conditions dictate otherwise.

Thresholds for Condition Parameters	
Condition Parameter	*Threshold Limits per Surface Area for Each Structure**

Spalling	*0.5% or 15 sq ft, whichever is less*
Scaling	*1.0%*
Delamination	*1.0%*
** once exceeded, warranty work shall be performed*	

The defective areas of the polymer overlay system may or may not be contiguous to necessitate warranty work. The Contractor shall ensure any warranty work requiring removal or replacement is made at a sufficient depth to restore the integrity of the polymer overlay system surface.

COMMENTS AND ACTION

738-B-297 WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE DECK SURFACES AND POLYMER OVERLAY SYSTEM FOR NON-BRIDGE DECKS

DISCUSSION:
This item was introduced and presented by Mr. Reilman who stated that the threshold limit for requiring warranty work for spalling is too large.

Mr. Reilman proposed to incorporate a definite area in addition to a percentage of deck area into the existing RSP.

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

Motion: Mr. Reilman Second: Mr. White Ayes: 10 Nays: 0 FHWA Approval: Yes	**Action:** X Passed as Submitted ___ Passed as Revised ___ Withdrawn
2022 Standard Specifications Sections referenced and/or affected: NONE Recurring Special Provisions or Plan Details: 738-B-297 WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE DECK SURFACES AND POLYMER OVERLAY SYSTEM FOR NON-BRIDGE DECKS Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	___ 2024 Standard Specifications ___ Revise Pay Items List ___ Create RSP (No.___) Effective: X Revise RSP (No. 738-B-297) Effective: March 1, 2023 ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update ___ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Continued confusion on how various guardrail components are accepted.

PROPOSED SOLUTION: Incorporate proposed changes to clarify what components are from the QPL and what are accepted by certification.

APPLICABLE STANDARD SPECIFICATIONS: 601, 910.09, 910.11

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: revise 601-R-750

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Jim Reilman, Industry Representatives

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: same as existing BFU for RSP 601-R-750

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 11/21/22

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? Yes
Construction time? Yes
Customer satisfaction? Yes
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: Only proposed changes shown highlighted gray, reinstated text – gray, underlined)

601-R-750 GUARDRAIL

(Adopted 03-17-22)

The Standard Specifications are revised as follows:

SECTION 601, BEGIN LINE 3, DELETE AND INSERT AS FOLLOWS:

601.01 Description

This work shall consist of the fabrication, assembly, and installation of guardrail, *guardrail components,* guardrail transitions, ~~and~~ guardrail end treatments, *and impact attenuators, all* in accordance with ~~these requirements, and as shown on the plans~~*105.03*. This work may also consist of the extension of existing guardrail with new guardrail, the removal of existing guardrail, or adjusting the height of existing guardrail.

MATERIALS

601.02 Materials

Materials shall be in accordance with the following:

Alternate Material Blockouts..... 926.03
Guardrail Accessories, Fittings, and Fasteners 910.11
Guardrail and Guardrail Components..... 910.09
Guardrail Posts..... 910.10
~~Rail Accessories, Fittings, and Hardware..... 910.11~~
Steel Thrie-Beam Rail..... 910.09
Steel W-Beam Rail..... 910.09
Timber Posts and Blockouts ..... 911.02(f)

~~All guardrail, post, accessories, fittings, and *connection* hardware shall be supplied from a manufacturer listed on the QPL of Guardrail Manufacturers in accordance with 910.09.~~ Guardrail end treatments shall be selected from the QPL of Guardrail End Treatments in accordance with 601.07. ~~and I~~ *I*mpact attenuators shall be selected from the QPL of Impact Attenuators in accordance with 601.08.

PCC in anchors and in pads or bases for impact attenuators shall be class A and in accordance with 702. Sheet signs and sign posts shall be in accordance with 802.

Barrels used in impact attenuators shall be yellow with black lids. The coarse aggregate used in the barrels shall be size 93PG, class F or higher, in accordance with 904.

All other impact attenuators shall have end reflectorization as shown on the plans or attached to the nose of the attenuator in accordance with the attenuator manufacturer's recommendation.

~~Thrie-beam guardrail elements shall be steel and shall be in accordance with the~~

~~applicable requirements for steel beam guardrail shown in 910.09, 910.10, and 910.11.~~

W-beam or Midwest Guardrail System, MGS, W-beam guardrail, components, assembly, post spacing, post lengths, and installation for each location shall be as shown on the plans. Double-facing of the guardrail will be required at the locations shown on the plans. For W-beam guardrail, in locations where conditions will not allow the use of 7 ft posts, 6 ft posts may be substituted when approved. Timber posts may be used within a run of MGS W-beam guardrail as shown on the plans. Timber posts shall not be used within a run of W-beam guardrail.

The base metal thickness of the steel W-beam rail element for a curved guardrail system shall be 0.105 in. The base metal thickness of the steel W-beam terminal connector shall be 0.13~~8~~*5* in. The controlled released terminal, CRT, timber breakaway posts shall be S4S timber and shall otherwise be in accordance with 911. The curved rail timber posts shall be in accordance with 911. All structural tubing shall be in accordance with ASTM A500. The remaining steel components shall be in accordance with 910.

SECTION 601, BEGIN LINE 139, DELETE AS FOLLOWS:

601.07 Guardrail End Treatments

Guardrail end treatments shall ~~be required to~~ terminate guardrail installations at the locations shown on the plans. The type I guardrail end treatment shall be either as shown on the plans, or shall be selected from the QPL of Guardrail End Treatments. The type II guardrail end treatment shall be as shown on the plans. The type OS or MS guardrail end treatments shall be selected from the QPL of Guardrail End Treatments. The grading requirements shall be as shown on the plans.

SECTION 910, BEGIN LINE 559, DELETE AND INSERT AS FOLLOWS:

910.09 Guardrail *and Guardrail Components*

Guardrail of the same type shall be interchangeable regardless of the source. Guardrail materials shall be in accordance with the applicable AASHTO or ASTM requirements listed herein. ~~and will only be accepted~~*W-beam rails, thrie-beam rails, and backup plates shall be furnished* from ~~qualified~~ manufacturers on the QPL of Guardrail Manufacturers. Qualification requirements for the manufacturers shall be in accordance with ITM 806, Procedure O.

~~Steel beam rail shall be galvanized, corrugated sheet steel beams in accordance with AASHTO M 180 as modified herein The rails, including terminal sections, shall be either class A, base metal nominal thickness of 0.105 in., 12 gauge, or class B, base metal nominal thickness or 0.135 in., 10 gauge. They shall be type 2, zinc coated with 3.60 oz/sq ft minimum single spot and 4.00 oz/sq ft minimum triple spot~~*W-beam and thrie-beam rails and backup plates shall be manufactured from corrugated sheet steel in accordance with AASHTO M 180. End sections, buffer end sections, transitions, terminal connectors, and shoes shall be manufactured from sheet steel in accordance with AASHTO M 180. All items listed above shall be galvanized in accordance with AASHTO M 180 and as modified herein. The base metal nominal thickness shall be either: class A, nominal thickness of 0.105 in., 12 gauge, or class B, nominal thickness of 0.135 in., 10 gauge, unless otherwise*

noted on the plans. They shall be zinc-coated, type II. Tests for adherence of the coating may be made including the test specified in ASTM A123, when deemed necessary. *A type C certification in accordance with 916 shall be provided for the end sections, buffer end sections, transitions, terminal connectors, and shoes. The heat number, part number, quantity, and purchase order number of the various guardrail component items listed in the sentence above that are being furnished to the contract shall accompany the type C certification. A copy of the mill certificate and mechanical test results from the various items, if tests were ran, shall also be included.*

Where beam rail is set on a curve of 150 ft radius or less, the rail plate shall be shop curved with its traffic face concave or convex as required. The radii of curvature shall be in increments of 10 ft from a radius of 150 to 50 ft inclusive and in increments of 5 ft from a radius of 50 ft to and including 20 ft.

The steel channels specified on the plans shall be standard 5 in. channels weighing 6.7 lb/ft. The material shall be in accordance with ASTM A36. The channel shall be galvanized in accordance with ASTM A123 after fabrication. The weight of zinc coating per area of actual surface shall average not less than 2 oz/sq ft for any individual piece of channel.

Construction details for the rails and channels shall be as shown on the plans.[next statement moved to a separate paragraph]

~~*Where the galvanizing on guardrail or components has been damaged, the coating shall be repaired either by re-galvanizing or by applying a paint.*~~ Whenever field fabrication, as approved, requires cutting or drilling, the ~~*uncoated portions of the*~~ cut or drilled member shall be coated ~~with a *paint. The paint used shall be a* high zinc dust zinc oxide paint in accordance with Federal Specification TT-P-641, type II, or Military Specifications DOD-P-21035. When spray paints are used, two coats shall be applied.~~ *in accordance with 910.11(a)4.*

910.10 Guardrail Posts

Guardrail posts shall be either steel or timber as specified and shall be in accordance with the following requirements. *A type C certification in accordance with 916 shall be provided for the guardrail posts. For steel posts, a copy of the mill certification, the heat number, quantity, and purchase order number for the posts shall accompany the type C certification. Mechanical test results, if tests were ~~ran~~run on either post material type, shall also be included.*

SECTION 910, BEGIN LINE 615, DELETE AND INSERT AS FOLLOWS:

910.11 Guardrail Accessories, Fittings, and ~~Hardware~~*Fasteners*

These items consist of brackets, splice plates and bars, post anchors, diaphragms, clamps and clamp bars, end caps, connection~~s~~ ~~*hardware*~~, anchor rod assemblies, deadmen, bolts, screws, nuts, washers, and blockouts of the type, dimensions, and design shown on the plans. They shall be in accordance with the requirements set out below. Items of the same type shall be interchangeable regardless of the source. ~~*Connection hardware*~~

~~*consisting of bolts, nuts, washers, and splice plates will only be accepted from qualified manufacturers on the QPL of Guardrail Manufacturers.*~~ *A type C certification in accordance with 916 shall be provided for all* ~~*other*~~ *accessories,* ~~*and*~~ *fittings, and fasteners.*

(a) For Steel Beam Guardrail

1. Post brackets, bars, plates and shapes for bridge railing brackets, and plate washers shall be in accordance with ASTM A36. Post brackets, bars, and plates and shapes for bridge railing brackets shall be galvanized in accordance with 910.10(a). Plate washers shall be galvanized after fabrication in accordance with ASTM A153. The weight of the W6 x 15 post bracket shall be in accordance with 910.10.

2. Splice plates and rail portion of bridge railing brackets shall be *type II,* class B~~, type 2~~, in accordance with ~~the first paragraph of~~ 910.09~~(a)~~.

COMMENTS AND ACTION

601-R-750 GUARDRAIL

DISCUSSION:
Mr. Reilman introduced and presented this item stating that there is some continued confusion on how various guardrail components are accepted.

Mr. Reilman proposed to incorporate the above shown changes to clarify what components are from the QPL and what are accepted by certification.

Mr. Koch stated that, considering repair of galvanization will occur in the field, there is not a conflict with the language just a discrepancy. The proposed corrective activities includes additional language for repairing damaged galvanization verses instruction currently available in 601.03 – 910.11(a)4. Mr. Koch asked, what is the intent of proposed 901.09 re-galvanization? Is this to occur before the material leaves the yard? Or is the intent just to give another option since painting is still allowed?
Mr. Reilman replied that he was intending on addressing a situation before material leaves the yard. However, after considering the sentences and sections you pointed out, I do not believe my proposed sentence is necessary; it is trying to address a problem that maybe does not exist. Thus, I submit adjustments as shown above, in 901.09.

Mr. Reilman revised his motion. Which was seconded by Mr. Novak.

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

Motion: Mr. Reilman Second: Mr. Novak Ayes: 10 Nays: 0 FHWA Approval: Yes	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2022 Standard Specifications Sections referenced and/or affected: 601 begin pg. 487; 910 begin pg. 1059. Recurring Special Provisions or Plan Details: 601-R-750 GUARDRAIL BFU: "Required for all contracts with any **601** pay items." Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_X_ 2024 Standard Specifications ___ Revise Pay Items List ___ Create RSP (No.___) Effective: _X_ Revise RSP (No. 601-R-750) Effective: June 1, 2023 ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update ___ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The existing spec is confusing for PEMS to follow, and proper change orders are not being created. The spec was edited at various times, and lacks consistency in voice.

PROPOSED SOLUTION: General overhaul to spec section.

- Changed materials listed in spec section to match the most common historical stockpiled materials
- Expanded general requirements to include the info from the old 111.10 additional requirements.
- Updated dollar threshold to restrict stockpiled materials on small value items.
- Added a time requirement of 45 days per the most recent schedule. Since INDOT operates on a semi-monthly estimate schedule, materials incorporated sooner than 45 days likely wouldn't see cashflow benefits once the CO is processed and added to an estimate.
- Moved delivery and storage requirements to additional requirements to shorten materials section and reduce repetition.
- Created maximum allowable percentage to a table for improved readability.
- Reduced pay item selection.
    - Users only need select proper unit and fill in material type.

APPLICABLE STANDARD SPECIFICATIONS: 111

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: 2.15 (Update submitted to Kurt Pelz)

APPLICABLE RECURRING SPECIAL PROVISIONS: 111-R-594 (Discontinue)

PAY ITEMS AFFECTED: 111-07599

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

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

Submitted By: Patrick Patterson through Joe Novak
Title: Field Engineer
Division: Construction Management
E-mail: ppatterson1@indot.in.gov
Date: 11/22/2022

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? 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? Yes

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? 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:

The Standard Specifications are revised as follows:

SECTION 111, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 111 – STOCKPILED MATERIALS

111.01 Description

This work shall consist of the partial payment for certain stockpiled materials.

~~111.02 General Requirements~~

~~After certified copies of costs are presented, partial payments may be allowed for tested and accepted non-perishable materials purchased or produced expressly to be incorporated into the work and delivered in the vicinity of the project, or stored in approved storage facilities. Such materials shall be limited to structural steel, concrete structural members, reinforcing bars, pavement contraction joints, granular base and subbase materials, aggregates for HMA and concrete pavements, and structural supports for signals, signs, and luminaires.~~

~~In addition to the aforementioned, the Department will consider the stockpiling of other products, such as guardrail and culvert pipe, if it has been determined that a critical shortage of material would cause delay to the project.~~

~~111.03 Structural Steel and Concrete Structural Members~~

~~Partial payment for either of these pay items will be considered only when the total quantity for an entire structure, or designated unit of a structure as specified on the plans, has been completely fabricated.~~

~~(a) Delivered to the Job Site~~

~~Partial payment made under the requirements of this paragraph will be the delivered cost of the structural steel and concrete structural members, as verified by invoices, including freight, furnished by the Contractor. However, such partial payment will not exceed 75% of the contract unit price as set out in the Schedule of Pay Items for structural steel or concrete structural members. Prior to authorizing partial payment, verification will be obtained that all required inspection has been made and the members are acceptable.~~

~~(b) Acceptably Stored at the Fabricator's or Manufacturer's Storage Facilities~~

~~Partial payment made under the requirements of this paragraph will be the delivered cost of structural steel and concrete structural members, minus freight charges, as verified from invoices furnished by the Contractor. However, such partial payment will not exceed 70% of the contract unit price as set out in the Schedule of Pay Items for structural steel or concrete structural members. Under this requirement, all invoices shall show the location of where the material is being stored. Prior to authorizing partial payment, verification will be obtained that all required inspection has been made, that the members are acceptable, and that they are acceptably stored.~~

111.04 Dowel Bar Assemblies

Partial payment made under the requirements herein will be the delivered cost of the dowel bar assemblies stored within the project limits or at a storage facility adjacent to the project site. Basis of payment for the dowel bar assemblies shall be the paid invoices furnished by the Contractor. Prior to authorizing partial payment, verification will be obtained that the dowel bars have been tested and are acceptable.

111.05 Granular Base, Subbase Materials, and Aggregates for HMA and Concrete Pavements

Partial payment made under the requirement of this paragraph will be made upon presentation of paid invoices or certified copies of the cost for the production of such materials. The partial payment will not exceed 30% of the unit price bid for the base or subbase material item as set out in the Schedule of Pay Items. The invoice or certified copies of the cost shall include an estimated quantity of the materials stored for partial payment. The estimated quantity of materials will be verified before payment.

The approved storage site shall be within the project limits, at the Contractor's adjacent storage facility, or at a production site where the designated materials are either assigned to, or owned by the Contractor. Materials stored under this requirement shall be kept separate from other production and shall not be used except on the assigned contract, unless otherwise approved in writing.

Testing shall be provided as directed, during production. Prior to authorizing partial payment, verification shall be provided that the materials have been tested and are acceptable.

111.06 Bridge Expansion Joints

(a) Type SS

Partial payment will be the delivered cost of the expansion joint SS, as verified by invoices, except it will not exceed 75% of the contract unit price for expansion joint SS. Prior to authorizing partial payment, verification shall be provided that all required inspections have been made and the joint is acceptable.

(b) Type M

Partial payment will be the delivered cost of the expansion joint M, as verified by invoices, except it will not exceed 75% of the contract unit price for expansion joint M. Prior to authorizing partial payment, verification shall be provided that all required inspections have been made and the joint is acceptable.

111.07 Structural Supports for Signals, Signs, and Luminaires

Partial payment will be the delivered cost of the materials, as verified by the invoices, except it will not exceed 50% of the contract unit price for the structural support which is stored within the project limits or at an approved storage facility adjacent to the project site. Prior to authorizing partial payment, verification shall be provided that the

~~material has been tested and is acceptable.~~

~~111.08 Precast Concrete Median Barrier~~

~~Partial payment for precast concrete median barrier as stockpiled material will be the delivered cost of the materials, including freight, as verified by invoices furnished by the Contractor. Such partial payment will not exceed 50% of the contract unit price for the median barrier. The concrete barrier shall be stored within the project limits or at an approved storage facility adjacent to the project in order for stockpiled payment to be favorably considered.~~

~~111.09 Concrete Face Panels and Ground Reinforcement for MSE Walls~~

~~Partial payment for concrete face panels and ground reinforcement for MSE walls as stockpiled material will be the delivered cost of the concrete face panels and ground reinforcement, including freight, as verified by invoices furnished by the Contractor. Partial payment will not exceed 75% of the contract unit price for concrete face panels.~~

~~Concrete face panels and ground reinforcement shall be stored within the project limits or at an approved storage location. Prior to authorizing partial payment, verification shall be provided that the concrete face panels are in accordance with 901.10 and the ground reinforcement is in accordance with 910.07(b).~~

~~111.10 Additional Requirements~~

~~Partial payment will not be allowed on an estimate for materials of less than $10,000 in value.~~

~~The Department may consider partial payment for stockpiled materials having a value of over $25,000. Partial payment will be the delivered cost verified by invoices, except it will not exceed 50% of the contract unit price.~~

~~All materials when so paid for under this requirement will become the property of the Department in the event of default on the part of the Contractor. The Department may use, or cause to be used, such materials in the construction of the work provided for in the contract.~~

~~Although payment may have been made for materials, the Contractor shall be responsible for loss or damage to the materials. Such materials shall be replaced with no additional payment.~~

~~Approval of partial payment for stockpiled materials will not constitute final acceptance of such materials for use in completing the work. Structural steel members and reinforcing bars may be subjected to additional inspection and testing prior to final acceptance and incorporation into the work. All other stockpiled pay items will be subjected to additional inspection and testing prior to final acceptance and incorporation into the work.~~

~~Partial payments for stockpiled materials that are a portion of the pay item will be deducted from estimates due the Contractor as the material is incorporated in the work.~~

~~111.11 Method of Measurement~~

~~No measurement will be made. However, the amount will be substantially verified before authorization for payment.~~

~~111.12 Basis of Payment~~

~~Stockpiled materials which are authorized for payment in accordance with the requirements herein will be paid for in accordance with 111.03, 111.04, 111.05, 111.06, 111.07, 111.08, 111.09 and 111.10.~~

~~Payment will be made under:~~

~~Pay Item~~	~~Pay Unit Symbol~~
~~Bridge Expansion Joint, _____ type~~	~~LFT~~
~~Stockpiled Material, _____ type of material~~	~~LFT~~
	~~CYS~~
	~~EACH~~
	~~LBS~~
	~~SFT~~
	~~SYS~~
	~~TON~~
~~Structural Steel~~	~~LS~~
~~Structural Members, Concrete~~	~~LS~~

111.02 General Requirements

After certified copies of costs are presented, partial payments may be allowed for non-perishable materials ~~purchased or produced expressly~~ to be incorporated into the work and delivered in the vicinity of the project or stored in approved storage facilities. Such materials shall be limited to structural steel, concrete structural members, MSE wall components, pile, reinforcing bars, drainage structures, contraction joints, and structural supports for signals, signs, and luminaires.

In addition to the aforementioned, the Department will consider the stockpiling of other products, if requirements in 111.03 and 111.04 are met.

~~Partial payment may be considered only when the cost of the partial exceeds $50,000~~Payment for stockpiled materials will only be considered when the allowable partial value exceeds $50,000 for a given pay item.

All required inspections, material compliance, and acceptable storage will be verified prior to authorizing partial payment.

Stockpiled materials ~~must~~shall not be scheduled for incorporation into the work for 45 days from the Contractor's request.

Stockpiled materials ~~must~~shall be kept separate from other ~~production~~ materials and be identified and marked for use only on the specific contract. When payment is authorized for stockpiled material, such material shall not be used for any other item except their intended item.

All materials ~~when so~~ paid for under this requirement will become the property of the Department in the event of default on the part of the Contractor. The Department may use, or cause to be used, such materials in the construction of the work provided for in the contract.

Although payment may have been made for materials, the Contractor shall be responsible for loss or damage to the materials. Such materials shall be replaced with no additional payment.

Approval of partial payment for stockpiled materials will not constitute final acceptance of such materials for use in completing the work. Stockpiled materials may be subjected to additional inspection and testing prior to final acceptance and incorporation into the work.

Partial payments for stockpiled materials that are a portion of the pay item will be deducted from estimates due the Contractor as the material is incorporated in the work.

111.03 Materials

(a) Structural Steel, Concrete Structural Members, and Supports for Signals, Signs, and Luminaires

Partial payment for ~~either of~~ these pay items will be considered only when the total quantity for an entire structure, or designated portion of a structure as specified on the plans and approved by the Engineer, has been completely fabricated.

(b) MSE Wall Components, Piles, Rebar, Drainage Structures, Dowel Bar Assemblies, and Bridge Expansion Joints

Partial payment for these pay items will be considered only when the total quantity for an entire structure, phase, intersection, or designated portion of a project as specified on the plans and approved by the Engineer, has been completely fabricated.

(c) Other Materials

Partial payment for other pay items may be considered only if a critical shortage has been determined by the Department.

111.04 Additional Requirements

(a) Delivered to the Job Site

Partial payment made under the requirements of this paragraph will be the delivered cost of the item, including freight, as verified by invoices~~,~~ furnished by the Contractor. ~~However, such~~ pPartial payment will not exceed the percentage indicated in the table below of the contract unit price as set out in the Schedule of Pay Items.

(b) Acceptably Stored at the Fabricator's, Manufacturer's, or Contractor's Storage Facilities

Partial payment made under the requirements of this paragraph will be the delivered cost of structural steel and concrete structural members, minus freight charges, as verified from invoices furnished by the Contractor. ~~However, such~~ pPartial payment will not exceed the percentage indicated in the table below of the contract unit price as set out in the Schedule of Pay Items. Under this requirement, all invoices shall show the location of ~~where the~~ material storage. Materials shall be stored in the United States.

Partial Payment Maximum Percentage		
Material	*Delivered to Job Site*	*Other Acceptable Storage Facility*
Structural Steel, Concrete Structural Members Supports for Signals, Signs, and Luminaires	*75%*	*70%*
MSE Wall Components Pile Rebar Drainage Structures Dowel Bar Assemblies Bridge Expansion Joints	*75%*	*50%*
Other Materials	*50%*	*30%*

111.05 Method of Measurement

No measurement will be made. However, the amount will be substantially verified before authorization for payment.

111.06 Basis of Payment

Stockpiled materials which are authorized for payment in accordance with the requirements herein will be paid for in accordance with 111.03 and 111.04.

Payment will be made under:

Pay Item	***Pay Unit Symbol***
Stockpiled Material, _____ type of material	*LFT*
	SFT
	SYS
	CYS
	LBS
	TON
	EACH
	LS

BACKUP 1

RECURRING SPECIAL PROVISION 111-R-594 DOWEL BAR ASSEMBLY STOCKPILED MATERIAL REQUIREMENTS *(proposed to discontinue)*

111-R-594 DOWEL BAR ASSEMBLY STOCKPILED MATERIAL REQUIREMENTS

(Revised 05-23-13)

The Standard Specifications are revised as follows:

SECTION 111, BEGIN LINE 44, DELETE AND INSERT AS FOLLOWS:

111.04 Dowel Bar Assemblies

Partial payment made under the requirements herein will be the delivered cost of the dowel bar assemblies stored within the project limits, ~~or~~ at a storage facility adjacent to the project site*, or at a location approved by the Engineer*. Basis of payment for the dowel bar assemblies shall be the paid invoices furnished by the Contractor. Prior to authorizing partial payment, verification will be obtained that the dowel bars have been tested and are acceptable.

(Note: changes shown highlighted gray)

2.15 PARTIAL PAYMENT FOR STOCKPILED MATERIALS *(Rev. 03-01-22)*

Items listed in 111 of the SS ~~or in the CIB~~ can be considered for partial payment for ~~certain~~ stockpiled materials.

The PEMS is to substantially verify the quantity of materials reported by the Contractor, and document same in the appropriate construction applications program. This quantity of materials should be reported in the same units as shown in the CIB, for example, subbase in ~~cubic yards~~*CYS*, riprap in ~~tons~~*TON*, and dowel bar assemblies in ~~ft~~*LFT*.

A ~~Change Order~~*change order* will need to be processed to establish an item for each stockpiled material. Payment would be authorized up to the verified amount. The unit cost should not exceed the ~~maximum amount listed in the CIB. The PEMS should note below the write-in item, "Authority provided under Partial Payments Provision." Lump Sum items would be paid as a percentage of the contract item (see CIB)~~*allowed percentage of the original unit price in the contract documents. The PEMS should note the item being stockpiled in the supplemental description. Lump Sum items should be created as a whole lump sum quantity with a unit price prorated to match the verified amount. For example, assume a PEMS needed to create a stockpiled material for the lump sum item, Structural Steel, with a unit price of $100,000 and the steel will be stored at the manufacturer's facility. The stockpiled material lump sum item quantity would be 1.00, and the price could be as high as $70,000 or the costs allowed per SS 111.*

If a PEMS wants to consider a material for stockpiled materials under 111.~~05~~03(c), the Area Engineer and Central Office Construction Management Field Engineer must agree with the change order prior to its creation.

~~Stockpiled materials must be kept separate from other production materials and be identified and marked for use only on the specific contract. When payment is authorized for stockpiled material, such material shall not be used for any other item except their intended item.~~ The PEMS or their delegate shall make frequent inspections of the stockpile to assure the materials are not being used for other work unless authorized in writing by the DDC. If stockpiled materials are used without prior authorization, progress payment amount will be deleted from the next ~~E~~estimate.

COMMENTS AND ACTION

SECTION 111 – STOCKPILED MATERIALS

DISCUSSION:
This item was introduced and presented by Mr. Novak, assisted by Mr. Patterson, who explained that the existing 111 spec is confusing for PEMS to follow, and proper change orders are not being created. The spec was edited at various times, and lacks consistency in voice.

Mr. Novak proposed to generally overhaul the 111 spec section as follows:

- Changed materials listed in spec section to match the most common historical stockpiled materials.
- Expanded general requirements to include the info from the old 111.10 additional requirements.
- Updated dollar threshold to restrict stockpiled materials on small value items.
- Added a time requirement of 45 days per the most recent schedule. Since INDOT operates on a semi-monthly estimate schedule, materials incorporated sooner than 45 days likely wouldn't see cashflow benefits once the CO is processed and added to an estimate.
- Moved delivery and storage requirements to additional requirements to shorten materials section and reduce repetition.
- Created maximum allowable percentage to a table for improved readability.
- Reduced pay item selection.
    - Users only need select proper unit and fill in material type.

Mr. Koch asked if, in 111.02, having two "partials" in the same sentence could be confusing. Also, in 111.03, with the addition of supports should 'either' be replaced with 'these' as several items are being referred to? With regard to the GIFE, Mr. Koch stated that 111.05 is the Method of Measurement. The guidance appears to require the AE & FE to concur on all stockpiled material items CO's; is this correct? Or is the guidance intended only for 'Other Materials'?

Mr. Patterson replied that yes, the wording could be better, and I like your proposed change. And yes, "these" is the better word in 111.03. For the GIFE, the intent is only for the "other materials" section. The GIFE language has been updated, as shown, to clarify by changing the listed section to 111.03(c). Revisions are shown highlighted above.

Mr. Duncan stated that INDOT needs to be more active in determining the storage location and make sure the materials are secure and accessible. Mr. Reilman suggested adding language to the GIFE. Mr. Patterson said he will update the GIFE language. Further editorial revisions, suggested by Mr. Duncan, have been incorporated as shown.

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

COMMENTS AND ACTION

SECTION 111 – STOCKPILED MATERIALS

[continued]

Motion: Mr. Novak Second: Mr. Reilman Ayes: 10 Nays: 0 FHWA Approval: Yes	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2022 Standard Specifications Sections referenced and/or affected: 111 begin pg. 123. Recurring Special Provisions or Plan Details: 111-R-594 DOWEL BAR ASSEMBLY STOCKPILED MATERIAL REQUIREMENTS BFU: "Required for all contracts with the D-1 Contraction Joint. **Pay Item: 503-05240**" Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: 2.15 (proposed changes shown as Backup 1)	_X_ 2024 Standard Specifications _X_ Revise Pay Items List ___ Create RSP (No.___) Effective: _X_ Discontinue RSP (No. 111-R-594) Sunset: with effect. 2024 SS ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: _X_ GIFE Update ___ Frequency Manual Update _X_ SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Construction Management has identified a potential point of misunderstanding within Standard Specifications, section 206 Structure Excavation. Currently, the associated pay items do not include the potential for shoring activities within the list of incidentals required to perform the work. Furthermore, it has been observed that multiple versions of temporary shoring USP's and associated pay item has been used inconsistently across the state to accommodate the payment of shoring for structure excavation.

PROPOSED SOLUTION: Update section 206 to include "shoring" within the list of incidental activities.

APPLICABLE STANDARD SPECIFICATIONS: 206

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: NA

APPLICABLE RECURRING SPECIAL PROVISIONS: NA

PAY ITEMS AFFECTED: NA

APPLICABLE SUB-COMMITTEE ENDORSEMENT: NA

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: As an editorial item, Construction Management prefers this to go into the 2024 standards specification book instead of approved as an RSP.

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Novak

Title: State Construction Engineer

Division: Construction Management

E-mail: jnovak@indot.in.gov

Date: 11/21/2022

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? 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? 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? NA
AASHTO or other design code? NA

Is this item editorial? Yes, clarification to what is determined as incidental construction

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

SECTION 206 – STRUCTURE EXCAVATION
206.01 Description
206.11 Basis of Payment: (a) Culverts; (b) Bridges

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 206, BEGIN LINE 3, INSERT AS FOLLOWS:

206.01 Description

This work shall consist of the excavation and backfill or disposal of all materials required for the construction of foundations for substructures of bridges, culverts, and retaining walls. It shall also consist of the furnishing and subsequent removal of all necessary materials and equipment for and the construction of cribs, cofferdams, caissons, and similar items, together with their dewatering. The work shall be in accordance with 105.03.

All excavation for structures below the designed slope or subgrade line as shown on the plans shall be included under this item.

Unless otherwise specified, structure excavation shall include all pumping, bailing, draining, *shoring,* sheeting, bracing, and incidentals required for proper execution of the work.

SECTION 206, BEGIN LINE 357, INSERT AS FOLLOWS:

(a) Culverts

This requirement will not include pipe culverts. Excavation for culverts will not be paid for directly. The cost thereof shall be included in the cost of the structure or structure extension. The cost of all necessary removal and satisfactory disposal of all or part of the existing old structure unless its removal is otherwise provided for, cleaning out an old channel or constructing a new channel within the right-of-way limits and widening it to the grade of the existing or proposed new stream bed as shown on the plans or as directed, construction of all necessary curbs and cofferdams and their subsequent removal, subsoil borings or soundings below bottom of footings, dewatering, *shoring,* disposal of excavated materials, and all labor, equipment, tools, and necessary incidentals shall be included in the cost of this work.

SECTION 206, BEGIN LINE 377, INSERT AS FOLLOWS:

(b) Bridges

The cost of clearing right-of-way within the project limits~~:~~, constructing, dewatering, and removal of cofferdams, if not a pay item~~:~~, subsoil borings or soundings below bottoms of footings~~:~~, final preparation of foundation surfaces~~:~~, disposal of excavated material~~:~~, *shoring,* and all labor, equipment, tools, and incidentals necessary to the satisfactory completion of the excavation shall be included in the cost of this work.

The cost of all required working drawings; furnishing, hauling, and placing necessary materials; construction; maintenance; dewatering; *shoring,* removal of bracing; removal of or cutting off the sheeting; and labor, equipment, tools, and necessary incidentals shall be included in the cost of cofferdams.

COMMENTS AND ACTION

206.01 Description
206.11 Basis of Payment

DISCUSSION:

This item was introduced and presented by Mr. Novak, assisted by Mr. Hauser, who stated that Construction Management has identified a potential point of misunderstanding within Standard Specifications, section 206 Structure Excavation. Currently, the associated pay items do not include the potential for shoring activities within the list of incidentals required to perform the work. Furthermore, it has been observed that multiple versions of temporary shoring USP's and the associated pay item has been used inconsistently across the state to accommodate the payment of shoring for structure excavation.

Mr. Novak proposed to update section 206 to include "shoring" within the list of incidental activities. One minor editorial addition was also incorporated.

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

Motion: Mr. Novak Second: Mr. Koch Ayes: 10 Nays: 0 FHWA Approval: Yes	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2022 Standard Specifications Sections referenced and/or affected: 206 begin pg. 213. Recurring Special Provisions or Plan Details: NONE Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_X_ 2024 Standard Specifications ___ Revise Pay Items List ___ Create RSP (No.___) Effective: ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ Frequency Manual Update ___ SiteManager Update