



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
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Indianapolis, Indiana 46204

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Eric Holcomb, Governor
Joe McGuinness, Commissioner

AGENDA

June 18, 2020 Standards Committee Meeting

MEMORANDUM

June 8, 2020

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Agenda for the June 18, 2020 Standards Committee Meeting

A Standards Committee meeting is scheduled for 09:00 a.m. on June 18, 2020 will be held virtually via *Teams* (Microsoft application). Please contact Scott Trammell (stammell@indot.in.gov) for instructions on how to join this event.

The following items are listed for consideration:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

1. *Approval of the Minutes from the May 21, 2020 meeting*

B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

(No items on this agenda)

C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
PROPOSED ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

[Item No. 1](#) [Mr. Reilman](#) [pg 3](#)

Special Provisions:
702-R-691

STRUCTURAL CONCRETE

[Item No. 2](#) [Mr. Reilman](#) [pg 9](#)

Special Provision:
729-B-204

HEAT STRAIGHTENING OF STEEL MEMBERS
IN THE FIELD

[Item No. 3](#) [Mr. Novak](#) [pg 19](#)

106.01(c)

Buy America Requirement

[Item No. 4](#) [Mr. Pelz](#) [pg 24](#)

Special Provision and Details:
801-T-XXX
801-T-XXX(d)

TRUCK MOUNTED ATTENUATORS
TRUCK MOUNTED ATTENUATORS DETAILS

cc: Committee Members
FHWA
ICI

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO SPECIAL PROVISION

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED:

The minimum water-cement ratio for both class A and class C concrete is too high for slipformed railing applications and does not allow ready mix suppliers to produce mixes that will comply with slump requirements. Also, due to the lower water-cement ratios that are inherent with slipformed mixes it is not necessary to include a water reducing admixture.

PROPOSED SOLUTION:

For both class A and class C concrete used in slipformed railings reduce the minimum water-cement ratio from 0.380 to 0.360 and eliminate the requirement to use a water reducing admixture.

APPLICABLE STANDARD SPECIFICATIONS: 702.02 and 702-R-691 (eff. 6-1-20)

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS:

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT: INDOT-IRMCA working committee 4-21-20

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT Office of Materials Management

Phone Number: 317-522-9692

Date: 5-22-20

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO SPECIAL PROVISION

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? No

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? 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? 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: N/A

REVISION TO SPECIAL PROVISION

702-R-691 STRUCTURAL CONCRETE

(Note: Proposed changes shown highlighted gray)

702-R-691 STRUCTURAL CONCRETE

(Revised 12-19-19)

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 7, INSERT AS FOLLOWS:

702.02 Classes of Concrete

The following classes of concrete shall be used where specified.

Class of Concrete	A	B	C
Cement content in lbs/cu yd	564	470	658
Maximum water/cement ratio in lbs of water per lbs of cement	0.450	0.620	0.443
Minimum water/cement ratio in lbs of water per lbs of cement*	0.380	0.400	0.380
*The minimum for all slipformed railings shall be 0.360			

SECTION 702, BEGIN LINE 34, DELETE AND INSERT AS FOLLOWS:

Fabric for Waterproofing~~918.01~~918.06

SECTION 702, BEGIN LINE 99, DELETE AND INSERT AS FOLLOWS:

~~Blended portland pozzolan cements, fly ash, and ground granulated blast furnace slag used as a pozzolan may only be used in concrete bridge decks between April 1 and October 15 of the same calendar year.~~ Slag cement or silica fume in accordance with 709.05(c) shall be used in all bridge decks and reinforced concrete bridge approaches.

Blended portland pozzolan cements, fly ash, and slag cement may be used in concrete when the ambient temperature is above 50°F during the entire placement period. Immediately following placement the average ambient temperature shall be above 50°F for the entire curing period. The average temperature shall be calculated based on hourly temperature measurements taken at the jobsite or from published weather station data within 10 miles of the jobsite. If the temperature restrictions are not met during placement or during the required curing period, curing shall continue and the element shall not be put into service until the strength requirements in accordance with 702.24 are met. If no test specimens are available to determine the concrete strength, curing shall continue and the concrete will be adjudicated as failed material. In no case shall the curing period be reduced below the minimum number of days specified for the element.

SECTION 702, BEGIN LINE 116, DELETE AND INSERT AS FOLLOWS:

Class A concrete shall contain a water-reducing admixture. Class C concrete shall contain either a water-reducing admixture or both a water-reducing admixture and a retarding admixture. The types used shall not be changed during any individual contiguous pour. For class C concrete, the types of admixtures to be used, shall be selected based on

REVISION TO SPECIAL PROVISION

702-R-691 STRUCTURAL CONCRETE

the expected concrete or air temperature. When either temperature is expected to be 65°F or above, both a water-reducing admixture and a retarding admixture shall be used. A water-reducing admixture shall be used when both temperatures are expected to be below 65°F unless retardation is required due to the structure design or the proposed pour sequence such as the requirements for floor slab pours set out in 704.04. If class C concrete contains ground granulated blast furnace slag, the producer may propose an alternate temperature threshold for including a retarding admixture. *If either class A concrete or class C concrete is used in slipformed railings, the requirement to use a water reducing admixture is waived.* Air-entraining cements will not be allowed in class C concrete.

SECTION 702, BEGIN LINE 237, INSERT AS FOLLOWS:

Concrete that is not within the specified slump limits at time of placement shall not be used. Except as required in 702.05 for *class A and class C* concrete, chemical admixtures type A, type B, type D, type F, and type G, may be used in the concrete. Chemical admixtures type C and type E will be allowed only with prior written permission.

SECTION 702 BEGIN LINE 477, DELETE AND INSERT AS FOLLOWS:

702.11 Cold Weather Concrete

When it is necessary to place concrete at or below an atmospheric temperature of ~~35°~~40°F, or whenever it is determined that the temperature may fall below ~~35°~~40°F within the curing period, the water, aggregates, or both shall be heated and suitable enclosures and heating devices provided. Cold weather concrete shall be placed at the risk of the Contractor and shall be removed and replaced with no additional payment if it becomes frozen or otherwise damaged.

SECTION 702, BEGIN LINE 528, DELETE AND INSERT AS FOLLOWS:

702.12 Consistency

Slump will be measured in accordance with 505 and shall be no less than 1 in. and no more than 46 in. except for concrete placed in foundation seals.

SECTION 702, BEGIN LINE 1286, INSERT AS FOLLOWS:

702.24 Application of Loads to and Acceptance of New Concrete

Except as otherwise hereinafter provided, application of loads to new concrete shall be in accordance with the following:

- (a) Equipment or traffic will not be allowed on structures until test beams representing all concrete required to carry live loads have attained a flexural strength of 550 psi for third-point loading.
- (b) Unbalanced backfill will not be allowed until test beams representing the concrete required to resist it have attained a flexural strength of 440 psi for third-point loading. The unbalanced height shall not exceed 10 ft until test beams representing the concrete have attained a flexural strength of 480 psi for third-point loading.

REVISION TO SPECIAL PROVISION

702-R-691 STRUCTURAL CONCRETE

- (c) The dead weight of steel or precast concrete superstructure shall not be placed on concrete until test beams representing the concrete have attained a flexural strength of 400 psi for third-point loading. A dead load shall not be placed on hammer-head piers until test beams representing have attained a flexural strength of at least 480 psi for third-point loading. The concrete floor, if to be placed thereon, shall not be poured until test beams representing the concrete supporting the superstructure have attained a flexural strength of at least 440 psi for third-point loading.
 - (d) Test beams representing concrete anchoring inserts to support falsework shall attain a flexural strength of a minimum of 480 psi for third-point loading, before a dead load of concrete is applied.
 - (e) *When blended portland pozzolan cements, fly ash, or slag cement are used in bridge railings or concrete barrier and the temperature limitations in accordance with 702.05 are not met, the bridge railings or concrete barrier may be put into service when flexural strength testing performed on test specimens indicate a modulus of rupture of 500 psi has been attained.*
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COMMENTS AND ACTION

702-R-691 STRUCTURAL CONCRETE

DISCUSSION:

<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p>	<p>Action:</p> <p><input type="checkbox"/> Passed as Submitted</p> <p><input type="checkbox"/> Passed as Revised</p> <p><input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p> <p style="padding-left: 40px;">702.02 pg 576.</p>	<p><input type="checkbox"/> 2022 Standard Specifications</p> <p><input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision references in:</p> <p style="padding-left: 40px;">702-R-691 STRUCTURAL CONCRETE</p>	<p><input type="checkbox"/> Create RSP (No. __)</p> <p>Effective:</p> <p>RSP Sunset Date:</p>
<p>Standard Drawing affected:</p> <p style="padding-left: 40px;">NONE</p>	<p><input type="checkbox"/> Revise RSP (No. __)</p> <p>Effective:</p> <p>RSP Sunset Date:</p>
<p>Design Manual Sections affected:</p> <p style="padding-left: 40px;">NONE</p>	<p><input type="checkbox"/> Standard Drawing</p> <p>Effective:</p>
<p>GIFE Sections cross-references:</p> <p style="padding-left: 40px;">NONE</p>	<p><input type="checkbox"/> Create RPD (No. __)</p> <p>Effective:</p> <p><input type="checkbox"/> GIFE Update</p> <p><input type="checkbox"/> SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Updates are needed to revise the means allowable to remove the existing coating, clarification on grinding and the method of measurement and basis of payment sections. Also, as this is specialized work, added a prequalification requirement.

PROPOSED SOLUTION: incorporate the proposed changes

APPLICABLE STANDARD SPECIFICATIONS: none

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS: 729-B-204

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc: Jose Murillo, Joe Novak, Nate Pfeiffer, Jim Reilman, Pete White

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT, Office of Materials & Tests

Phone Number: 317-522-9692

Date: 5/22/20

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? N/A

Will this proposal improve:

Construction costs? N/A

Construction time? N/A

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? Yes

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? Yes

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:

REVISION TO SPECIAL PROVISION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

(Note: Proposed changes shown highlighted gray)

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

(Adopted 09-19-13)

The Standard Specifications are revised as follows:

SECTION 729, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 729 – ~~BLANK~~HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

729.01 Description

This work shall consist of field-repairing damaged steel members by the planned and supervised application of limited amounts of localized heat and jacking forces, grinding, and drilling crack-arrest holes in accordance with 105.03. ~~It shall include furnishing and installing or removing structural steel materials as directed in accordance with 105.03.~~

729.02 Prequalification Requirement

The Contractor performing the heat straightening work shall hold a current prequalification certification from the Department with a work type of 0050, steel bridge beam heat-straightening, regardless of whether the value of total work under contract from all sources is less than \$300,000.

MATERIALS

729.0203 Materials

Materials shall be in accordance with the following:

<i>Organic Zinc Primer</i>	<i>909.02(a)2</i>
<i>Partial Paint System</i>	<i>619.09(b)</i>
<i>Structural Steel</i>	<i>910.02</i>
<i>Waterborne Finish Paint</i>	<i>909.02(d)</i>

CONSTRUCTION REQUIREMENTS

729.0304 Pre-Heat Straightening Inspection

~~Damaged~~sSteel members shall be inspected by the Engineer and Contractor for impact damage such as but not limited to gouges, sharp dents, cracks, or other damage resulting from the impact prior to any other work related to heat straightening commencing. All areas identified as having impact damage shall have the paint removed by using only a chemical-based paint stripping product. ~~Powerabrasive blasting, hand tool cleaning, handpower tool cleaning, water blasting, or any other method to remove paint shall not be used~~that does not inhibit the ability to inspect the underlying steel substrate. The steel members in the areas identified as having damage resulting from an impact

REVISION TO SPECIAL PROVISION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

~~damage~~ shall be checked for fine cracks using liquid dye penetration in accordance with ASTM E 165 or magnetic particle testing in accordance with ASTM E 709.

729.0405 Contractor's Work Plan

Upon completion of the pre-heat straightening inspection, the Contractor shall submit a written work plan for the following:

- (a) cleaning of, and existing coating removal from the work area and any other areas of concern discovered during the pre-heat straightening inspection;
- (b) types of heat patterns at each location and sequences;
- (c) jacking or other means used to augment the heat straightening process. Detailed information on the method used and the proposed force measurement system shall be included. The force measurement system shall have been calibrated within the past 12 months;
- (d) disconnecting, supporting, and adjusting steel members, as required;
- (e) cleaning method and painting system to be used following the heat straightening.

The Contractor shall receive written approval of the work plan from the Engineer prior to beginning any work described in the work plan.

729.0506 Grinding

After the damaged areas have been checked for cracks or other damage as outlined above, all gouges, tears, and sharp dents shall be ground smooth. An area 3 in. larger than the impact area on each side of the location of the impact shall be ground to a smooth, bright metal surface to remove the cold-worked region of the steel resulting from the impact. Any weld toes within or immediately adjacent to the impact area shall ground smooth with a die grinder. Cracks discovered in the pre-heat straightening inspection shall be ground out by excavating the crack into a dish-like shape, the sides of which shall approximate a 3:1 taper. If the crack is not removed after grinding approximately a 1/8 in. depth of steel or if prior to grinding, the crack appears to be excessively long, deep or wide, the Engineer shall be notified prior to any grinding. Under no circumstances shall the cracks be v-grooved, filled with welding material, and then ground smooth.

729.0607 Surface Preparation of Area to be Heated

Before cutting or heating any steel member, paint shall be removed from inside the limits of the heat straightening area. Surface preparation shall be in accordance with 619.08(a), ~~619.08(b)~~, and either 619.08(d) or 619.08(gh). ~~Hand tool cleaning or brush-off blast cleaning shall not be used.~~

729.0708 Equipment

REVISION TO SPECIAL PROVISION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

All gas fueled heating equipment, force application devices, and accessories shall be supplied by the Contractor. Fuel for heating shall be an oxygen-fuel mixture. The fuel shall be acetylene, natural gas, or propane.

Heat application shall be by a torch designed for heating, not cutting, with single-orifice tips only, unless otherwise specified herein. The size of the tip shall be proportional to the thickness of the heated material. As a guide, the tip size is shown in the following table:

<i>Steel Member Thickness, t (in.)</i>	<i>Orifice Size</i>
$t \leq 1/4$	3
$1/4 < t \leq 3/8$	4
$3/8 < t \leq 1/2$	5
$1/2 < t \leq 5/8$	7
$5/8 < t \leq 7/8$	8
$t > 7/8$	*
<i>* multiple torches, rosebud, or multiple orifice tips may be used</i>	

729.0809 Suspension of Work

If adverse weather conditions such as rain, snow, or hail arise, or anything else causing unexpected or sudden cooling of the heated members, the Engineer may order the suspension of work. If a suspension of work is ordered, the Contractor shall immediately cease applying heat to the steel members. The suspension of work will only apply while adverse weather conditions exist at the project location. The Contractor shall not recommence work until directed by the Engineer.

729.0910 Heat Application and Heat Patterns

The Contractor shall identify, by measurements, all yield zones and yield lines prior to starting heat straightening. The temperature of the steel member within a heat pattern during any heat straightening cycle shall be between the minimum and maximum temperature values for the respective type of steel shown in the table below.

<i>Temperature, °F</i>		<i>Type of Steel Shown on the Plans (ASTM Classification Shown)</i>
<i>Minimum</i>	<i>Maximum</i>	
850	950	<i>A 709, grade HPS 100W</i>
900	1000	<i>A 709, grade 70W; A 709, grade HPS 50W; A 709, grade HPS 70W; A 852; A 913</i>
950	1050	<i>A 514; A 709, grade non-HPS 100/100W</i>
1100	1200	<i>A 7; A 36; A 242; A 373; A 440; A 441; A 529; A 572; A 588; A 709, grades 36, 50, 50S, and 50W; A 992</i>

Temperatures outside the limits specified above will be cause for rejection and replacement of the steel member.

REVISION TO SPECIAL PROVISION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

The Contractor shall provide and use one or more of the following devices to verify temperatures during heat straightening:

- (a) Pyrometer*
- (b) Infrared non-contact thermometer*

The devices shall be calibrated every 12 months. Heat application shall not be performed unless at least one of the devices listed above is being used to verify the temperature of the steel member. Heat patterns and sequences shall be selected to match the type of damage and cross section shape.

Heat shall be applied within an included angle of 15 to 55 degrees, but limited to a base width of 12 in. Sufficient number of heat patterns shall be used to eliminate chording effects, where chording effects are defined as straightening small portions of the damaged steel member. Each heat pattern shall be heated in a single pass. The entire heat pattern shall not be reheated until the steel member has cooled below 250°F. Only cooling with clean, dry air will be permitted. Cooling with compressed air will only be permitted after the steel member has cooled naturally to 600°F. When the steel member thickness exceeds 1 in., two torches shall be used simultaneously to heat both sides of the heat pattern. The torches shall be located one above the other throughout the heating process.

The number, location, and sequence of the areas to be heated shall be marked on the steel members. The following heat patterns shall be used:

- (a) edge heats*
- (b) line heats*
- (c) spot heats*
- (d) strip heats*
- (e) vee heats*

Heat pattern boundaries shall be marked with soapstone. In no case shall heat be applied to undamaged portions of the steel member.

When using vee heats, the heat pattern shall be located on the convex side of the steel member; heat pattern edges shall not overlap and shall be greater than the width of the bottom flange element apart. The apex of the vee should be truncated to an approximate 1 in. width at the junction of the web and flange with the boundaries extending to the edge of the flange. Once the desired temperature of the steel member has been obtained, heating shall progress in a serpentine motion from the apex of the vee toward the base of the vee in a single pass.

729.1011 Application of Restraining Forces

Restraining forces shall not be applied without acceptable force measurement systems in place. Force measurement devices shall be calibrated every 12 months. Jacks or come-alongs, not exceeding 25 t capacity, may be used to put steel members into limited

REVISION TO SPECIAL PROVISION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

compression as a means of mechanically augmenting the heat straightening process. The load shall be applied prior to the application of heat. The load shall not be increased during the heat cycle. After a number of heat cycles and the steel member has cooled below 250°F, the load may be adjusted to compensate for the effects of the heat cycles. Any section of the steel member that becomes distorted, cracked, or permanently deformed due to methods of handling, supporting, and loading or by any other means shall be replaced or repaired as determined by the Engineer.

729.1112 Tolerances

The steel member shall be straightened to within the following tolerances:

<i>Criteria</i>	<i>Tolerance</i>
<i>Horizontal Sweep</i>	<i>3/8 in. per every 20 ft of length</i>
<i>Horizontal Sweep at the point of impact</i>	<i>3/8 in. per every 5 ft of length, or 1/2 in. per every 8 ft of length</i>
<i>Vertical Deflection</i>	<i>1/4 in. maximum</i>
<i>Deflection of Web (out of plane of web)</i>	<i>1/4 in. maximum in both the vertical and horizontal direction</i>

Tolerances shall be achieved before cross frames, diaphragms, or any other lateral restraint devices are attached. In no case shall the steel member be forced into position and then welded or bolted to the cross frames or diaphragms to hold the steel member in position.

729.1213 Post-Heat Straightening Inspection

Following the completion of steel member straightening, the straightened steel member shall be inspected by the Engineer and the Contractor. The inspection shall be performed using the same methods and procedures used in the pre-heat straightening inspection. ~~When the Engineer deems additional structural repairs are required, additional work shall be in accordance with 109.05.~~

729.1314 Epoxy Injection

If the top flange of the steel member has pulled away from and is no longer in contact with the concrete bridge deck, the resultant void shall be completely filled by epoxy injection in accordance with 727 after completion of all of the steel member straightening and repairs.

729.1415 Painting

Upon completion and acceptance of the heat straightened steel members, the Contractor shall clean, prime, and paint the steel members. Surface preparation shall be in accordance with 729.0607. The paint system shall be in accordance with 619.09(b). Painting shall be in accordance with 619.10. All exposed surfaces on heat-straightened steel members shall be fully painted from the edge of the nearest splice plate or steel member end outside the heat straightened area to the nearest splice plate or steel member

REVISION TO SPECIAL PROVISION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

end on the other side of the heat straightened area. The color of the top coat shall be a similar color to match the color of the existing bridge.

729.1516 Method of Measurement

~~This work~~ Heat straightening, grinding, drilling crack-arrest holes, and other incidentals will not be measured for payment.

New structural steel and drilled holes for installation of bolts will be measured in accordance with 711.72.

729.1617 Basis of Payment

New structural steel and drilled holes for installation of bolts will be paid for in accordance with 711.73.

The accepted heat straightened steel members will be paid for at the contract lump sum price for straighten steel member.

Payment will be made under:

Pay Item

Pay Unit Symbol

Straighten Steel Member LS

The cost for all material, labor, equipment, and incidentals for the inspection of the steel members, the temperature verification devices, calibration of the temperature verification devices, ~~and removal of any cracks~~ grinding, and drilling crack-arrest holes if shown on the plans or directed by the Engineer, shall be included in the cost of straighten steel member.

The cost for all materials, labor, equipment, and incidentals necessary for disconnecting, supporting, or adjusting the steel members or secondary steel members, jacks or other augmenting devices, the force measurement system, and calibration of the force measurement system shall be included in the cost of straighten steel member.

The cost for all materials, labor, equipment, and incidentals required for ~~existing coating removal~~, preparing, priming, and painting of the steel members shall be included in the cost of straighten steel member.

If the Engineer deems it necessary for the Contractor to perform epoxy injection as outlined above, this extra work will be paid for in accordance with 109.05.

If, as a result of the Contractor's methods used in the prosecution of the work, the integrity of the steel member has been compromised as determined by the Engineer, all costs to remedy the situation up to and including replacing of the steel members and all

REVISION TO SPECIAL PROVISION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

costs associated with replacing the steel members shall be at no additional cost to the Department.

COMMENTS AND ACTION

729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD

DISCUSSION:

<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p>	<p>Action:</p> <p>___ Passed as Submitted</p> <p>___ Passed as Revised</p> <p>___ Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p> <p style="text-align: center;">NONE</p>	<p>___ 2022 Standard Specifications</p> <p>___ Revise Pay Items List</p>
<p>Recurring Special Provision references in:</p> <p style="text-align: center;">729-B-204 HEAT STRAIGHTENING OF STEEL MEMBERS IN THE FIELD</p>	<p>___ Create RSP (No. __)</p> <p>Effective:</p> <p>RSP Sunset Date:</p>
<p>Standard Drawing affected:</p> <p style="text-align: center;">NONE</p>	<p>___ Revise RSP (No. __)</p> <p>Effective:</p> <p>RSP Sunset Date:</p>
<p>Design Manual Sections affected:</p> <p style="text-align: center;">NONE</p>	<p>___ Standard Drawing</p> <p>Effective:</p>
<p>GIFE Sections cross-references:</p> <p style="text-align: center;">NONE</p>	<p>___ Create RPD (No. __)</p> <p>Effective:</p> <p>___ GIFE Update</p> <p>___ SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: It was found that the current specification needs to be updated to reflect language called out in the IC and CFR.

PROPOSED SOLUTION: The purpose of this revision is to promote clarification of the Buy America process and allow foreign steel to be incorporated in projects at the Department's discretion, if two conditions apply; insufficient supply and under the minimal usage amount.

APPLICABLE STANDARD SPECIFICATIONS: 106.01(c)

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Novak

Title: State Construction Engineer

Organization: Construction Management

Phone Number: (317) 232-5456

Date: 06/08/20

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 106 - CONTROL OF MATERIAL

106.01(c) Buy America Requirement

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 106, BEGIN LINE 81, DELETE AND INSERT AS FOLLOWS:

(c) Buy America Requirement

~~All contracts, whether financed entirely or partially with State or Federal funds, All contracts shall be supplied with steel and iron products that are made in the United States and shall comply with IC 5-16-8 and the 23 CFR 635.410.~~

~~Except for pig iron and processed, pelletized, and reduced iron ore, steel shall be made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer, or other steel making process. Except for pig iron and processed, pelletized, and reduced iron ore, all steel and cast iron materials and products permanently incorporated in the contract shall be manufactured in the United States. Manufactured products include those which are rolled, formed, shaped, drawn extruded, forged, cast, or fabricated. The United States includes all territories, continental and insular, subject to the jurisdiction of the United States of America.~~

~~Except for pig iron and processed, pelletized, and reduced iron ore, no steel or cast iron products produced in the United States may be modified in a foreign country and still comply with the Buy America Requirement. All steel or iron products incorporated permanently into a contract must be made of steel or iron produced in the United States and all subsequent manufacturing must be performed in the United States except for pig iron and processed, pelletized, and reduced iron ore. Manufacturing is any process that modifies the chemical content; physical shape or size; or final finish of a product. Manufacturing begins with the initial melting and mixing and continues through the bending and coating stages. If a domestic product is taken out of the United States for any process, it becomes a foreign source material. Manufactured products that are partially or predominantly steel, shall be entirely produced with domestic steel. If a product has miscellaneous foreign steel incorporated, such as fasteners or brackets, then those miscellaneous pieces shall be replaced or substituted.~~

1. Exceptions

~~The Engineer may grant specific written permission to use foreign steel or iron products when both of the following conditions apply:~~

- a) ~~The cost of products to be used does not exceed 0.1 percent of the total Contract cost, or \$2,500, whichever is greater. The cost is the value of the product as delivered to the project.~~
- b) ~~The specified products are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet the requirements of the~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 106 - CONTROL OF MATERIAL

106.01(c) Buy America Requirement

Contract Documents. The Engineer may require the Contractor to obtain letters from three different suppliers documenting the unavailability of a product from a domestic source if the shortage is not previously established by the Department.

A Buy America Certification shall be submitted and received for each product or source of material prior to being incorporated into the contract in accordance with 916.02(g) and 916.03(a).

COMMENTS AND ACTION

106.01(c) Buy America Requirement

DISCUSSION:

<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p>	<p>Action:</p> <p>___ Passed as Submitted</p> <p>___ Passed as Revised</p> <p>___ Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p> <p style="padding-left: 40px;">106.01 pg 64.</p>	<p>___ 2022 Standard Specifications</p> <p>___ Revise Pay Items List</p>
<p>Recurring Special Provision references in:</p> <p style="padding-left: 40px;">NONE</p>	<p>___ Create RSP (No. __)</p> <p>Effective:</p> <p>RSP Sunset Date:</p>
<p>Standard Drawing affected:</p> <p style="padding-left: 40px;">NONE</p>	<p>___ Revise RSP (No. __)</p> <p>Effective:</p> <p>RSP Sunset Date:</p>
<p>Design Manual Sections affected:</p> <p style="padding-left: 40px;">NONE</p>	<p>___ Standard Drawing</p> <p>Effective:</p>
<p>GIFE Sections cross-references:</p> <p style="padding-left: 40px;">NONE</p>	<p>___ Create RPD (No. __)</p> <p>Effective:</p> <p>___ GIFE Update</p> <p>___ SiteManager Update</p>

PROPOSAL TO THE STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Unique Special Provisions are intended for a single use on a specific contract for a specific situation on the contract that is not already covered by the Standard Specification or a Special Provision. However, some USPs have been utilized quite frequently on numerous contracts and have become somewhat “standard”.

PROPOSED SOLUTION: The proposed solution for this USP is to convert it to a Recurring Special Provision in order to expedite the process of implementing this Special Provision into future contracts, which will make it easier for the implementation of Truck Mounted Attenuators on contracts.

APPLICABLE STANDARD SPECIFICATIONS: 801

APPLICABLE STANDARD DRAWINGS:

APPLICABLE DESIGN MANUAL SECTION:

APPLICABLE SECTION OF GIFE:

APPLICABLE RECURRING SPECIAL PROVISIONS:

PAY ITEMS AFFECTED: Truck Mounted Attenuators

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Scott Trammell, Construction Specifications Engineer, and the USP Review Process, et al.

IMPACT ANALYSIS (attach report): Yes

Submitted By: Kurt Pelz,

Title: Technical Services Manager

Organization: Construction Management

Phone Number: 317-234-7726

Date: January 24, 2020

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, just 801.

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? Yes

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? Yes

For construction workers? Yes

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? Yes

AASHTO or other design code? N/A

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: For ease of use for implementation and to improve the USP Review Process flow capacity.

REVISION TO SPECIAL PROVISIONS AND PLAN DETAILS

801-T-XXX(d)TRUCK MOUNTED ATTENUATORS DETAILS (PROPOSED NEW)

801-T-XXX TRUCK MOUNTED ATTENUATORS

(Adopted xx-xx-20)

Description

This work shall consist of furnishing truck mounted or trailer mounted attenuators, TMAs, in accordance with 105.03.

Materials

Materials shall be in accordance with 801.02 and as follows:

Each TMA shall be in accordance with the appropriate TL-2 or TL-3 NCHRP 350 or MASH crash testing requirements. TL-2 or TL-3 units shall be used where the work zone speed limit is 45 mph or less. TL-3 units shall be required where the work zone speed limit is 50 mph or greater.

A copy of the FHWA eligibility letter for each TMA model shall be provided to the Engineer prior to use.

All TMAs shall be in good working condition.

Construction Requirements

Where specified, the TMA shall be used in accordance with 801.03 and the Indiana Manual of Uniform Traffic Control Devices, MUTCD, and the manufacturer's recommendations.

The TMA shall be an energy absorbing device attached to the rear of shadow trailers or trucks. When used, the shadow vehicle with the TMA shall be positioned a sufficient distance in advance of the work area, workers, or equipment to reduce the severity of rear end collisions from errant vehicles, but not so far in advance that errant vehicles can travel around the shadow vehicle and endanger the workers or equipment.

An additional shadow vehicle shall be provided for any gaps in the operation of 500 ft or more.

A TMA may be used on the work vehicle and the shadow vehicle.

TMA units shall be maintained in such a manner as to provide continuous service. No time extension will be considered for delays due to inoperable TMAs.

Method of Measurement

TMAs will be measured by the number of calendar days that each unit is in use.

Basis of Payment

The accepted quantities of TMAs will be paid for at the contract unit price per day, per each. Payment will be made only once for each day of use, regardless of the number of times the TMAs are moved to accommodate different phases of traffic maintenance or construction operations as shown in the contract.

Payment will be made under:

REVISION TO SPECIAL PROVISIONS AND PLAN DETAILS

801-T-XXX(d)TRUCK MOUNTED ATTENUATORS DETAILS (PROPOSED NEW)

Pay Item

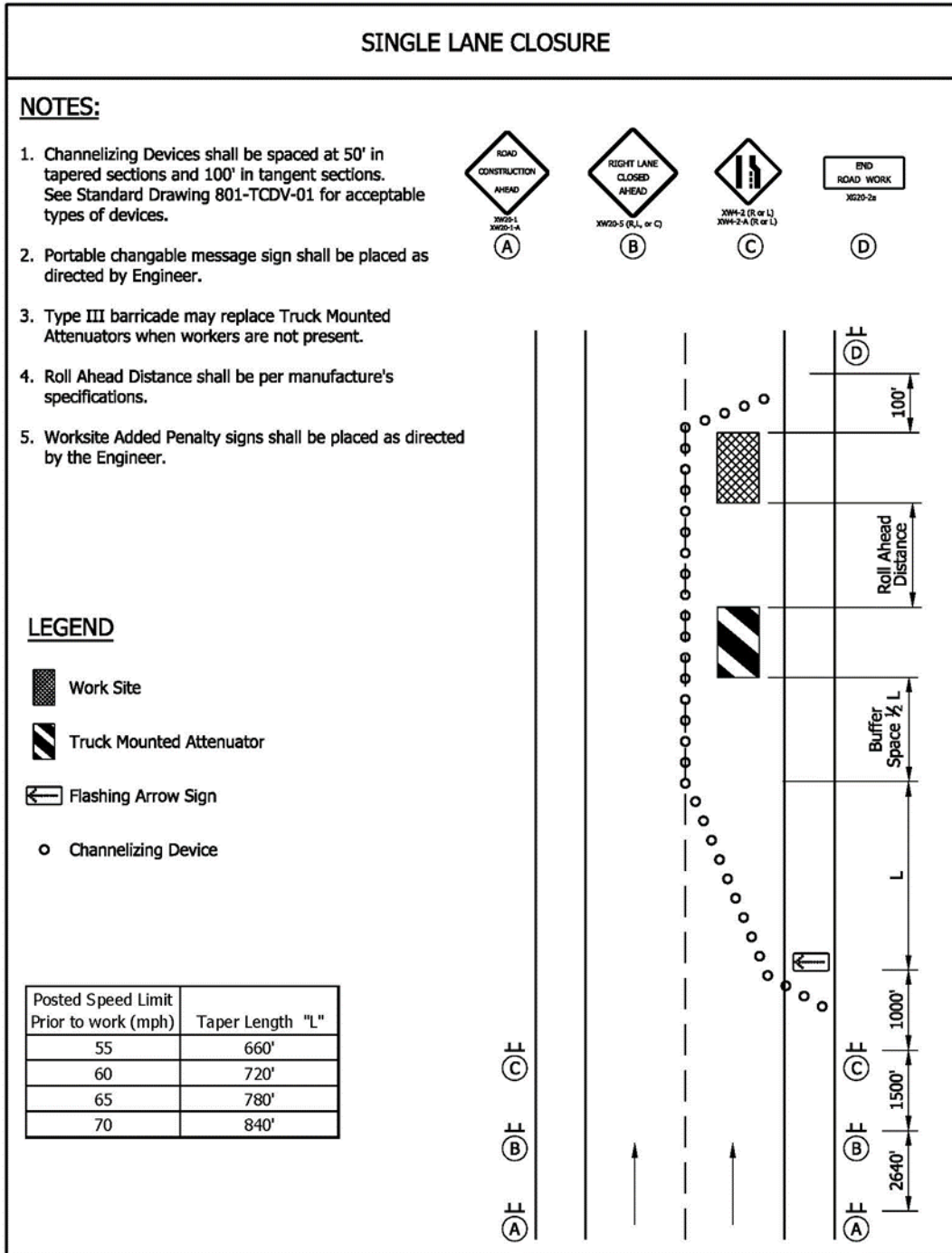
Pay Unit Symbol

Truck Mounted Attenuator..... DAY

The cost of furnishing the truck, trailer, flashing arrow sign, and truck mounted impact attenuator shall be included in the cost of the pay item. No additional payment will be made for maintenance, repairs, or replacement of TMAs that are damaged or become inoperable.

REVISION TO SPECIAL PROVISIONS AND PLAN DETAILS

801-T-XXX(d)TRUCK MOUNTED ATTENUATORS DETAILS (PROPOSED NEW)



COMMENTS AND ACTION

801-T-XXX TRUCK MOUNTED ATTENUATORS (PROPOSED NEW)

801-T-XXX(d)TRUCK MOUNTED ATTENUATORS DETAILS (PROPOSED NEW)

DISCUSSION:

<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p>	<p>Action:</p> <p>___ Passed as Submitted</p> <p>___ Passed as Revised</p> <p>___ Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p> <p style="padding-left: 40px;">801 begin pg 811.</p> <p>Recurring Special Provision references in:</p> <p style="padding-left: 40px;">NONE</p> <p>Standard Drawing affected:</p> <p style="padding-left: 40px;">NONE</p> <p>Design Manual Sections affected:</p> <p style="padding-left: 40px;">NONE</p> <p>GIFE Sections cross-references:</p> <p style="padding-left: 40px;">NONE</p>	<p>___ 2022 Standard Specifications</p> <p>___ Revise Pay Items List</p> <p>___ Create RSP (No. __)</p> <p style="padding-left: 40px;">Effective:</p> <p style="padding-left: 40px;">RSP Sunset Date:</p> <p>___ Revise RSP (No. __)</p> <p style="padding-left: 40px;">Effective:</p> <p style="padding-left: 40px;">RSP Sunset Date:</p> <p>___ Standard Drawing</p> <p style="padding-left: 40px;">Effective:</p> <p>___ Create RPD (No. __)</p> <p style="padding-left: 40px;">Effective:</p> <p>___ GIFE Update</p> <p>___ SiteManager Update</p>