



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N925 CM
Indianapolis, Indiana 46204

PHONE: (317) 232-5502
FAX: (317) 232-5551

Eric Holcomb, Governor
Joe McGuinness, Commissioner

APPROVED MINUTES

November 20, 2019 Standards Committee Meeting

January 13, 2020

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the November 20, 2019 Standards Committee Meeting

The Standards Committee meeting was called to order by Mr. Pankow, Chair, at 09:00 a.m. on November 20, 2019 in the IGCS Building Conference Room 4&5. The meeting was adjourned at 10:23 am.

The following committee members were in attendance:

Gregory Pankow, Chairman, Director, Construction Management

Michael Beuchel, Contract Administration Division

Dave Boruff, Traffic Engineering

Mark Orton, Bridge Design Division

James D. Culbertson*, Construction Management

Kumar Dave, Pavement Engineering, Highway Design

Matthew Beeson, Materials Management

Michael Koch, District Construction, Fort Wayne District

Elena Veksler, Highway Design and Technical Support

Derrick Hauser**, Construction Technical Support

* Proxy for Joseph Novak

** Proxy for Kurt Pelz

Also in attendance were the following:

Andrew Pangallo, INDOT

Bart Mueller, INDOT

Barry Capper, Jobsite Mobile Offices

John Leckie, ACPA

Dan Osborn, ICI

Steve Fisher, INDOT

Tom Duncan, FHWA

Andrew Meeks, 3M

Ashley Aiken, ICI

Steve Duncan, INDOT

Kirk Frederick, INDOT

Michael Nelson, INDOT

Mike Pelham, INDOT

Andrew Blackburn, INDOT

Scott Trammell, INDOT

The following items were discussed:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS

(No items were listed)

NEW BUSINESS

1. *Approval of the Minutes from the October 17, 2019 meeting*

DISCUSSION: Mr. Pankow requested a motion to approve the Minutes from the October 17, 2019 meeting.

Motion: Mr. Koch

Second: Mr. Boruff

Ayes: 9

Nays: 0

ACTION:

PASSED AS SUBMITTED

2. *Schedule of meetings, submittals and distributions for 2020 (MR. TRAMMELL)*

The only exception to that shown is the November 2020 meeting which will be moved to Wednesday, November 18, 2020 due to the conflict with the annual CEPDS conference.

B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items were listed)

NEW BUSINESS

(No items were listed)

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

OLD BUSINESS

(No items were listed)

NEW BUSINESS

Item No. 1 (2020 SS)

Mr. Pelz

pg 5

Recurring Special Provisions:

801-R-672

LAW ENFORCEMENT OFFICER FOR WORK ZONE
SAFETY

801-R-672A	GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES	
ACTION:	PASSED AS REVISED	
<u>Item No. 2 (2020 SS)</u>	Mr. Beeson	pg 16
501.23	Opening to Traffic	
502.18	Opening to Traffic	
609.12	Opening to Traffic	
ACTION:	PASSED AS SUBMITTED	
<u>Item No. 3 (2020 SS)</u>	Mr. Beeson	pg 21
702.03	Materials	
702.11	Cold Weather Concrete	
ACTION:	PASSED AS SUBMITTED	
<u>Item No. 4 (2020 SS)</u>	Mr. Boruff	pg 25
Recurring Special Provision: (Proposed new)		
808-T-xxx	<i>RETRO-REFLECTIVITY TESTING</i>	
ACTION:	PASSED AS SUBMITTED	
<u>Item No. 5 (2020 SS)</u>	Mr. Boruff	pg 29
Recurring Special Provision: (Proposed new)		
919-M-xxx	<i>TRAFFIC SIGNS</i>	
ACTION:	PASSED AS REVISED	
<u>Item No. 6 (2020 SS)</u>	Mr. Novak	pg 35
628.02	Field Office and Laboratory Requirements	
628.03	Mobile Internet Service	
ACTION:	PASSED AS REVISED	

cc: Committee Members
FHWA
ICI

SCHEDULE OF MEETINGS, SUBMITTALS AND DISTRIBUTIONS FOR 2020

Standards Committee Meeting Date	Agenda Items Due ⁽¹⁾	Agenda Distributed and Published	First Draft Minutes Distributed	Comments Due for Draft Minutes	Final Draft Minutes Distributed	Approved Minutes Published
	(- 24 days)	(- 17 days)	(+ 6 days)	(+ 13 days)	(+ 21 days)	(+ 35 - 42 days)
19-Dec-19	25-Nov-19	2-Dec-19	26-Dec-19	2-Jan-20	9-Jan-20	30-Jan-20
16-Jan-20	23-Dec-19	30-Dec-19	22-Jan-20	29-Jan-20	6-Feb-20	20-Feb-20
20-Feb-20	27-Jan-20	3-Feb-20	26-Feb-20	4-Mar-20	12-Mar-20	26-Mar-20
19-Mar-20	24-Feb-20	2-Mar-20	25-Mar-20	1-Apr-20	9-Apr-20	23-Apr-20
16-Apr-20	23-Mar-20	30-Mar-20	22-Apr-20	29-Apr-20	7-May-20	21-May-20
21-May-20	27-Apr-20	4-May-20	27-May-20	3-Jun-20	11-Jun-20	25-Jun-20
18-Jun-20	26-May-20	1-Jun-20	24-Jun-20	1-Jul-20	9-Jul-20	23-Jul-20
16-Jul-20	22-Jun-20	29-Jun-20	22-Jul-20	29-Jul-20	6-Aug-20	20-Aug-20
20-Aug-20	27-Jul-20	3-Aug-20	26-Aug-20	2-Sep-20	10-Sep-20	24-Sep-20
17-Sep-20	24-Aug-20	31-Aug-20	23-Sep-20	30-Sep-20	8-Oct-20	22-Oct-20
15-Oct-20	21-Sep-20	28-Sep-20	21-Oct-20	28-Oct-20	5-Nov-20	19-Nov-20
18-Nov-20	26-Oct-20	2-Nov-20	30-Nov-20	2-Dec-20	10-Dec-20	28-Dec-20
17-Dec-20	23-Nov-20	1-Dec-20	23-Dec-20	30-Dec-20	7-Jan-21	21-Jan-21

NOTES:

Agenda items must be submitted by the due date shown, and be accompanied by a Proposal sheet.

The April meeting is the last opportunity for the approval of Standard Drawings effective on September 1, 2020.

Shaded dates are exceptions to the regular schedule.

Date change due to annual CEPDS conference in November.

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

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Due to the comments received during the previous RSP's use, the need to revise and re-write the LEO RSP including training instructions, training requirements, and LEO costs were evident.

PROPOSED SOLUTION: New proposal for the use of a LEO on construction contracts. Reduction of redundant verbiage and the creation of web-based training documentation. Deletion of RSP 801-R-672A.

APPLICABLE STANDARD SPECIFICATIONS: 801

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: 503-4.01 strategy reference #5 should be modified to delete the current reference to 801-R-672A.

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: 801-R-672 and 801-R-672A

PAY ITEMS AFFECTED: New item #801-12509 Law Enforcement Officer Training (EACH) has been created.

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc committee coordination between Construction and Work Zone Safety.

IMPACT ANALYSIS (attach report): Yes

Submitted By: Kurt Pelz

Title: Construction Technical Services Manager

Organization: Construction Management

Phone Number: 317-234-7726

Date: October 25, 2019

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

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? No

Customer satisfaction? Yes

Congestion/travel time? Yes

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? Yes

For construction workers? Yes

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? 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 PROVISIONS

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY (PROPOSED DRAFT)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

Note: Currently used provision and Guidelines are available at:

<https://www.in.gov/dot/div/contracts/standards/rsp/sep19/sec800.htm>

and were approved at November 15, 2017 meeting:

<u>801-R-672</u>	Law Enforcement Officer for Work Zone Safety
<u>801-R-672A</u>	Guidelines for Law Enforcement Officers when Working in INDOT Work Zones

New Instructions referenced in proposed draft provision:

Instructions and Procedures For Non-ISP Law Enforcement Officers When Working in INDOT Work Zones

Recurring special provision (proposed draft) shown:

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY

(Revised xx-xx-xx)

Description

This work shall consist of providing a Law Enforcement Officer, LEO, to assist with the safe, efficient, orderly movement of traffic and to enhance worker safety during construction activities.

Materials

Materials shall be in accordance with 801.02 and as described herein.

Construction Requirements

Traffic Control and work zone safety shall be in accordance with 801.

Utilization of the LEO may include providing a presence during set up, tear down, substantial traffic shifts, when new lane closure arrangements are initiated for long term lane closures or shifts, for the first and last day of major changes in traffic control set up, and queue protection. Other unique project uses may be specified so that overall worker and motorist safety is enhanced.

Use of a LEO by the Contractor other than as specified above will not be allowed at project cost without the prior approval of the Engineer. The LEO shall not be used where the MUTCD specifies that flaggers shall be used.

Personnel

The LEO shall be an off-duty, non-Indiana State Police-ISP Law Enforcement Officer in full police uniform. The LEO shall be a graduate

REVISION TO SPECIAL PROVISIONS

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY (PROPOSED DRAFT)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

of the Indiana Law Enforcement Academy Basic Course, or equivalent, and shall be a police officer or deputy actively employed by a police agency in Indiana. Equivalency of training will be at the discretion of the Department.

In accordance with IC 8-23-2-15(b), the duties of a police officer hired under this special provision shall:

- (1) Be limited to those duties that the police officer normally performs while on active duty; and
- (2) Not include the duties of a
 - a. Flagman; or
 - b. Security Officer.

~~When outside the vehicle, the LEO shall wear the correct ANSI certified high-visibility safety apparel provided by their department.~~

Equipment

The LEO shall use a marked police vehicle with emergency flashing lights and complete markings of the appropriate law enforcement agency. The marked police vehicle shall be equipped with, at minimum, an 800 MHz radio/portable radio that contains the local and statewide mutual aid channels within the area the LEO is working.

When outside of the marked police vehicle, the LEO shall wear the correct ANSI certified high-visibility safety apparel provided by their agency.

The Contractor shall establish direct communication with the LEO prior to the start of their shift. The method of communication shall be at the discretion of the Contractor and may include the exchange of mobile telephone numbers or dedicated communication devices, such as mobile phones and walkie-talkies. The Contractor may provide the LEO with dedicated communication devices. Dedicated communication devices shall be returned to the Contractor at the end of the LEO's shift.

Operation

The Contractor shall be responsible for securing the services of the LEO with the appropriate agency and communicating the intentions of the plans with respect to the duties of the LEO. The Contractor and the LEO shall follow the standards for placement of the LEO in work zones set forth by the NCHRP Report 746.

Training

Part 1

Prior to beginning work on a contract, the LEO, and at least one representative of the Contractor who will be onsite whenever the LEO is present, shall certify completion of the following National Highway Institute web based training:

REVISION TO SPECIAL PROVISIONS

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY (PROPOSED DRAFT)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

Safe and Effective Use of Law Enforcement in Work Zones. FHWA-NHI-133119. Accessible at:

http://ops.fhwa.dot.gov/wz/traffic_mgmt/wzsm.htm

Any additional individuals proposed for the training shall be submitted to the Engineer for review and approval prior to enrolling in the training. Training verification will be retained within the contract files.

Part 2

The LEO, the Contractor, and the Engineer are required to review and agree to adhere to the requirements contained in Department specific training entitled "Instructions and Procedures for Non-ISP Law Enforcement Officers When Working in INDOT Work Zones" prior to beginning construction activities. The training document is accessible at:

<https://www.in.gov/indot/3980.htm>

The training instruction document, any meeting notes, and the signature document will be retained within the contract files.

Engineer Responsibilities

The activities of the LEO are subject to the authority and direction of the Engineer, in accordance with 105 and 108, and are limited to the activities associated with the contract work zone. The Contractor's choice of duties and placement of the LEO on any given work shift are subject to approval by the Engineer. The Engineer will have no authority over the LEO when the LEO is acting in an agency enforcement capacity. The Engineer may direct the LEO to perform enforcement and also other unspecified activities to encourage motorists to respect the work zone. Unspecified uses will not be allowed without the prior approval of the Engineer.

Contractor Responsibilities

The Contractor shall be responsible for the LEO's duties and placement, and shall inform the Engineer of any issues that may arise. Duties and placement of the LEO are subject to approval by the Engineer. The Contractor shall ensure that the LEO remains at the project site for the entire duration of their shift and reports back at the end of the shift unless directed otherwise by the Engineer.

LEO Responsibilities

The LEO shall report to the Contractor prior to the start of the shift in order to receive instructions regarding specific work assignments. The LEO shall stay at the project site for the entire duration of their shift and report to the Contractor at the end of the shift. If the LEO has completed the duties described above and still has time remaining on their shift, the LEO may be asked to patrol through the work zone, with flashing lights off, or be placed at a location to deter motorists from speeding or following too closely. When it is necessary to leave the project site, the LEO shall first notify the Contractor. The Contractor shall then notify the appropriate Department personnel.

REVISION TO SPECIAL PROVISIONS

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY (PROPOSED DRAFT)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

All LEOs shall follow the procedures for infraction and ordinance violation enforcement established by IC 9-21-5-11 while working within the work zone, such as issuing citations for infractions or detaining individuals in violation of traffic laws when and where appropriate.

The LEOs shall not forgo their traffic control responsibilities to apprehend motorists for routine traffic violations, except that enforcement action is encouraged as a mechanism to enhance motorist compliance and increase driver awareness. However, if a motorist's actions are considered reckless or endangering to the workers or to the motoring public, then pursuit of the motorist is appropriate. LEOs shall also provide a response to any incident or situation that involves public safety near or within the project limits to ensure the safety of the parties involved, and the motoring public.

Method of Measurement

Law enforcement officer for work zone safety will be measured by the number of hours during the phase or phases of traffic control that require the LEO's presence. Each portion of an hour will be measured as a whole hour.

If a LEO is directed by their agency to respond to a situation that is not related to the contract, the time involved in responding to that situation will not be measured for payment.

Law enforcement officer training will be measured by each approved individual successfully completing the National Highway Institute web based training.

Basis of Payment

Law enforcement officers will be paid for at the contract unit price of \$60 per hour.

Law enforcement officer training will be paid for at the current verified training price per each approved individual successfully completing the National Highway Institute web based training, FHWA-NHI-133119.

Payment will be made under:

Pay Item

Pay Unit Symbol

Law Enforcement Officer.....	HR
Law Enforcement Officer, Training.....	EACH

REVISION TO SPECIAL PROVISIONS

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY (PROPOSED DRAFT)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES

(Adopted 11-15-17)

The following Guidelines training is required for:

1. At least one Contractor representative who shall be onsite whenever a LEO is present.
2. Any LEO prior to working on a Department contract.
3. At least one Department representative who will be onsite whenever a LEO is present.

This training shall be conducted in a group forum with all of the above parties present. Either the Contractor or Department personnel should lead the discussion on the topics contained herein.

INDOT PE/S will ensure all parties have a copy of this document during the training.

Prior to working on the contract, the LEO shall have also completed the following training:

NHI-133119, accessible at:
http://ops.fhwa.dot.gov/wz/traffic_mgmt/wzsm.htm

INSTRUCTIONS FOR THE LAW ENFORCEMENT OFFICER

1. Exchange contact information with the Contractor, Department personnel, and other Law Enforcement Officers prior to the start of the shift.
2. Make daily contact with the Contractor or Department point of contact when arriving to or leaving the jobsite.
3. Arrive at the jobsite at the agreed upon time, or at minimum, 15 minutes prior to the Contractor's scheduled start time.
4. Do not leave until traffic control devices have been removed from the roadway. Provide presence for Contractor personnel who are removing traffic control devices.
5. Do not park partially or completely in an open lane of traffic unless traffic is stopped.
6. When located on shoulder, safely park vehicle on the same shoulder as the arrow board, when possible.
7. When parking on shoulder, park far enough off of roadway so door can be opened without it extending into traffic.
8. Do not perform an activity you believe to be unsafe.
9. Do not serve as a flagger for the Contractor.

ACCEPTABLE PROCEDURES FOR THE LAW ENFORCEMENT OFFICER

Protecting a Queue

1. Stay approximately 1/4 mile in advance of the queue.

REVISION TO SPECIAL PROVISIONS

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY (PROPOSED DRAFT)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

2. If an arrow board is in use, park on same side of road as arrow board, when possible.
3. Face queue with emergency lights on.
Facing traffic provides better visibility for the LEO. However, there are situations in which facing traffic may not be practical or possible. Safety First.
4. Keep headlights off.
5. Protecting queue is top priority unless otherwise directed.
6. Do not leave queue to investigate an accident if it is determined that leaving the queue will cause additional accidents in the queue. Call for assistance with accidents if necessary.

Providing a Presence near an Operation

1. Park facing the same direction as traffic.
2. Park in a visible location behind the operation you are protecting.
3. Pursue motorists that are driving recklessly.
4. Occasional pursuit of speeders to issue citations may be necessary to ensure motorists respect the speed limit. Necessity and frequency of this shall be discussed with Department personnel prior to the start of work.
5. Do not pursue motorists for other routine traffic violations.
6. Investigate accidents in or near the work zone. Instruct motorists to move vehicles from roadway to reduce the possibility of queues. Call for assistance with accident if necessary.
7. If your presence is causing issues with motorists, contact the Contractor and the Department point of contact.

It is important for appropriate Contractor personnel, Department personnel, and the LEO to meet prior to the beginning of a shift to discuss the day's work, in order to

- a) review any phase changes that may occur during the work shift,
- b) determine the LEO's positioning during the course of the shift, and
- c) discuss any potential problems that might be encountered.

Proper planning will not only reduce the possibility of surprises, but will also provide a better chance of everyone being on the same page when unique situations arise. This is especially important when a quick decision needs to be made by one of the parties. By understanding these guidelines, planning ahead, and functioning as a team, it increases the likelihood that the best decision will be made for the workers and the motoring public.

The Contractor's choice of the duties and placement of the LEO on any given work shift are subject to approval by the Engineer.

By signing below, I affirm that I have read and agree to comply with these Guidelines.

REVISION TO SPECIAL PROVISIONS

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY (PROPOSED DRAFT)

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

Law Enforcement Personnel

Contractor Personnel

INDOT Personnel

Date of Review

It is required that this material be reviewed and signed by all parties whenever a new LEO or a new point of contact for the Contractor or the Department is assigned to the contract.

INDOT PE/S will retain a copy of this document in contract files.

All parties are encouraged to keep a copy of this document with them for reference.

COMMENTS AND ACTION

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

DISCUSSION:

This item was introduced and presented by Mr. Hauser, sitting in as proxy for Mr. Pelz, who explained that due to feedback received during the previous RSP's use, the need to revise and re-write the LEO RSP including training instructions, training requirements, and LEO costs were evident. Mr. Hauser proposed to revise the language in the RSP concerning the use of a LEO on construction contracts, resulting in a reduction of redundant language and the creation of web-based training documentation. Mr. Hauser stated that this will result in the deletion of RSP 801-R-672A. Minor editorial revisions, for clarification and consistency, are as shown.

Mr. Koch asked about the rate increase, which is almost double the previously agreed upon rate. Mr. Koch asked if the rate of \$60/hr should be written as a not to exceed rate? Mr. Hauser responded that the decision to update the hourly cost comes from an industry inquiry. The cost is based on information produced from an industry survey of costs for LEOs across the State. Ms. Aiken, from ICI, confirmed the range of the hourly rates currently being utilized. Mr. Hauser clarified that the cost verification came through our WorkZone Safety section and their cost tracking associated with police patrols over the last two years.

Mr. Hauser, in answering Mr. Duncan's (FHWA) questions, added that one issue we kept hearing is that costs associated with hiring a LEO was a problem. Some Contractors had problems hiring LEOs for the original cost. This updated cost helps to alleviate this issue. Also, the upgrade provides greater potential for safety on contracts that would benefit from the use of a trained LEO. The Department still retains the ability to utilize the position when and where we see fit. Mr. Pankow and Mr. Culbertson, following a brief discussion, agreed that this issue can be revisited in the future.

With no further discussion, this item passed as revised.

COMMENTS AND ACTION

801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY

801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES (PROPOSED TO DISCONTINUE USE)

[CONTINUE]

Motion: Mr. Hauser Second: Mr. Dave Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: Section 801	<input type="checkbox"/> 2022 Standard Specifications <input checked="" type="checkbox"/> Revise Pay Items List
Recurring Special Provision affected: 801-R-672 LAW ENFORCEMENT OFFICER FOR WORK ZONE SAFETY	<input checked="" type="checkbox"/> Discontinue RSP (No. <u>801-R-672A</u>) Effective: RSP Sunset Date: <u>May 31, 2020</u>
801-R-672A GUIDELINES FOR LAW ENFORCEMENT OFFICERS WHEN WORKING IN INDOT WORK ZONES	<input checked="" type="checkbox"/> Revise RSP (No. <u>801-R-672</u>) Effective: <u>June 1, 2020</u> RSP Sunset Date:
Standard Drawing affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
Design Manual Sections affected: 503-4.01	<input type="checkbox"/> Create RPD (No. <u> </u>) Effective:
GIFE Sections cross-references: NONE	<input type="checkbox"/> GIFE Update <input type="checkbox"/> SiteManager Update

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

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED:

The specifications currently allow 501 QC/QA PCCP, 502 PCCP and 609 RCBAs to be opened to traffic based on time in lieu of achieving strength prior to opening. This exposes the pavement to potential damage.

PROPOSED SOLUTION:

Revise the specifications to require strength validation prior to opening pavement to all traffic.

APPLICABLE STANDARD SPECIFICATIONS: 501.23, 502.18, 609.12

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: This proposal was reviewed by the INDOT-IACPA working committee on 10/2/19.

IMPACT ANALYSIS (attach report):

Submitted By: Matt Beeson for Mike Nelson

Title: Director

Organization: INDOT Office of Materials Management

Phone Number: 317-522-9662

Date: 10/16/19

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

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? Yes

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? No

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: N/A

REVISION TO STANDARD SPECIFICATIONS

SECTION 501 - QC/QA PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

501.23 OPENING TO TRAFFIC

SECTION 502 - PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

502.18 OPENING TO TRAFFIC

SECTION 609 - REINFORCED CONCRETE BRIDGE APPROACHES

609.12 OPENING TO TRAFFIC

The Standard Specifications are revised as follows:

SECTION 501 BEGIN LINE 350, DELETE AND INSERT AS FOLLOWS:

501.23 Opening to Traffic

The Contractor shall be responsible for controlling the opening of the PCCP to construction and non-construction traffic and include the procedures in the QCP. Pavement inspection will be completed in accordance with 501.22.

(a) Construction

~~Construction vehicles or equipment will be allowed on the PCCP after 10 days or when flexural tests indicate a modulus of rupture of 550 psi or greater. ITM 402 may be used as an alternate method to determine the flexural strength. All construction vehicles or equipment that may damage the PCCP shall not be used on the PCCP unless adequate protection is provided. Approved joint cutting saws may be operated on the PCCP.~~

(b) Non-Construction

~~PCCP may be opened to traffic after 14 days. The PCCP may be opened earlier if to equipment and traffic when test beams or ITM 402 indicate a modulus of rupture of 550 psi or greater. If adequate strengths are not met within 14 days, an investigation by the Engineer and Contractor will be conducted to determine if the PCCP is deficient. Resolutions for all deficiencies will be developed at the completion of the investigation. Cracks and joints shall be sealed in accordance with 503.05 and the PCCP cleaned prior to opening to traffic.~~

SECTION 502 BEGIN LINE 338, DELETE AND INSERT AS FOLLOWS:

502.18 Opening to Traffic

~~When fly ash, GGBFS, or cement type IP, type IS, type IP A, or type IS A is incorporated into the PCCP, traffic shall not be allowed on the PCCP until the test beams indicate a modulus of rupture of 550 psi or greater. Opening to traffic of PCCP not containing the above additives shall be based on the following.~~

(a) Construction

~~Construction vehicles or equipment may be allowed on the PCCP after 10 days or when the test beams indicate a modulus of rupture of 550 psi or greater. Any construction vehicle or equipment that may damage the PCCP shall not be used on the PCCP unless adequate protection is provided. Approved joint cutting saws may be operated on the PCCP as determined by the Contractor.~~

(b) Non-Construction

~~PCCP may be opened to equipment and traffic after 14 days or when test beams or ITM 402 indicate a modulus of rupture of 550 psi or greater. Prior to opening to traffic,~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 501 - QC/QA PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

501.23 OPENING TO TRAFFIC

SECTION 502 - PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

502.18 OPENING TO TRAFFIC

SECTION 609 - REINFORCED CONCRETE BRIDGE APPROACHES

609.12 OPENING TO TRAFFIC

cracks and joints shall be sealed in accordance with 503.05 and the PCCP shall be cleaned.

SECTION 609 BEGIN LINE 120, INSERT DELETE AS FOLLOWS:

609.12 Opening to Traffic

~~RCBA may be opened to traffic after 14 days.~~ The RCBA may be opened ~~earlier~~ to equipment and traffic if when test beams indicate a modulus of rupture of 550 psi or greater.

COMMENTS AND ACTION

501.23 OPENING TO TRAFFIC

502.18 OPENING TO TRAFFIC

609.12 OPENING TO TRAFFIC

DISCUSSION:

Mr. Beeson introduced this item, which was presented by Mr. Nelson, who stated that the specifications currently allow 501 QC/QA PCCP, 502 PCCP and 609 RCBAs to be opened to traffic based on time in lieu of achieving strength prior to opening. This exposes the pavement to potential damage. Mr. Nelson and Mr. Beeson therefore proposed to revise the specifications to require strength validation prior to opening pavement to all traffic.

Mr. Koch suggested that failed beams not be thrown away, in case further evaluation is needed. Mr. Nelson agreed. Further discussion found that the ITM 402 could need some revisions also.

BFU = For all contracts with 501, 502 or 609 pay items.

Motion: Mr. Beeson Second: Mr. Koch Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 501.23 pg 394; 502.18 pg 412; 609.12 pg 483.	<input checked="" type="checkbox"/> 2022 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in: NONE	<input checked="" type="checkbox"/> Create RSP (No. <u>TBD</u>) Effective: <u>June 1, 2020</u> RSP Sunset Date: <u>2022 SS book</u>
Standard Drawing affected: NONE	<input type="checkbox"/> Revise RSP (No. <u> </u>) Effective: RSP Sunset Date:
Design Manual Sections affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references: NONE	<input type="checkbox"/> Create RPD (No. <u> </u>) Effective: <input checked="" type="checkbox"/> GIFE Update <input type="checkbox"/> SiteManager Update

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

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED:

Section 702.11 currently defines cold weather concrete for structural concrete as when concrete is placed at or below 35° or whenever the temperature is expected to fall below 35° during the curing period. The temperature threshold is too low and exposes the concrete to risk especially for elevated pours such as bridge decks. ACI 306R-16 is nationally recognized by the concrete industry as the primary guideline for cold weather concrete. It defines cold weather as when the temperature has fallen to or is expected to fall below 40° during the protection period.

PROPOSED SOLUTION:

Revise the temperature threshold in section 702.11 for cold weather concrete from 35° to 40° to coincide with nationally accepted cold weather practice.

APPLICABLE STANDARD SPECIFICATIONS: 702.11

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: This proposal was reviewed by the INDOT-IRMCA working committee on 7/30/19. It was also submitted to ICI.

IMPACT ANALYSIS (attach report):

Submitted By: Matt Beeson for Mike Nelson

Title: Director

Organization: INDOT Office of Materials Management

Phone Number: 317-522-9662

Date: 10/24/19

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

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? No

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? No

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

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: N/A

REVISION TO STANDARD SPECIFICATIONS

SECTION 702 - STRUCTURAL CONCRETE

702.03 MATERIALS

702.11 COLD WEATHER CONCRETE

The Standard Specifications are revised as follows:

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

Fabric for Waterproofing ~~918.01~~ **918.06**

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.

COMMENTS AND ACTION

702.03 MATERIALS

702.11 COLD WEATHER CONCRETE

DISCUSSION:

This item was introduced by Mr. Beeson, and presented by Mr. Nelson, who stated that Standard Specification Section 702.11 currently defines cold weather concrete for structural concrete as when concrete is placed at or below 35° or whenever the temperature is expected to fall below 35° during the curing period. The temperature threshold is too low and exposes the concrete to risk especially for elevated pours such as bridge decks. ACI 306R-16 is nationally recognized by the concrete industry as the primary guideline for cold weather concrete, and it defines cold weather as when the temperature has fallen to or is expected to fall below 40° during the protection period.

Mr. Beeson and Mr. Nelson therefore proposed to revise the temperature threshold in 702.11 for cold weather concrete from 35° to 40° to coincide with nationally accepted cold weather practice.

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

Mr. White suggested including the minor editorial revision concerning waterproofing fabric in 702.03, as shown highlighted above.

Motion: Mr. Beeson Second: Mr. Koch Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 702.11 pg 587.	<input checked="" type="checkbox"/> 2022 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in: 702-R-691 STRUCTURAL CONCRETE	<input checked="" type="checkbox"/> Revise RSP (No. <u>702-R-691</u>) Effective: <u>June 1, 2020</u> RSP Sunset Date: <u>2022 SS book</u>
Standard Drawing affected: NONE	<input type="checkbox"/> Create RSP (No. <u> </u>) Effective: RSP Sunset Date:
Design Manual Sections affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references: NONE	<input type="checkbox"/> Create RPD (No. <u> </u>) Effective: <input checked="" type="checkbox"/> GIFE Update <input type="checkbox"/> SiteManager Update

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Indiana Test Method, ITM, 802 on random sampling and ITM 931 on pavement marking retoreflectivity testing were both revised recently. The changes provide clarity on how many lines must be measured on two-lane and multilane highways. While the total number of readings will increase in many cases as both white edgelines will be measured separately on two-lane highways, the number of readings per sampling zone has been reduced from 20 to 16. Section 808.07 of the Standard Specifications has four instances that reference the old 20 reading standard.

PROPOSED SOLUTION: Update Section 808.07 of the Standard Specifications based on the recent changes to ITM 802 and ITM 931.

APPLICABLE STANDARD SPECIFICATIONS: 808.07

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: ?

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Yes, Traffic Standards Subcommittee

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Bruno, on behalf of Dave Boruff

Title: Sr. Engineer of Signals & Markings

Organization: INDOT Traffic Engineering Division

Phone Number: (317) 234-7949

Date: 10/24/2019

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

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? Yes

Congestion/travel time? No

Ride quality? Yes

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? Yes

For construction workers? No

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? 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? 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 STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

808-T-xxx RETRO-REFLECTIVITY TESTING (PROPOSED NEW)

808-T-xxx RETRO-REFLECTIVITY TESTING

(Adopted xx-xx-19)

The Standard Specifications are revised as follows:

SECTION 808, BEGIN LINE 271, DELETE AND INSERT AS FOLLOWS:

Pavement marking segments which are found to have an average retro-reflectivity reading below the minimum required shall be re-striped with no additional payment. Pavement markings segments which have more than ~~five~~^{four} of 2016 individual readings below the minimum required shall be re-striped with no additional payment. The restriping shall begin within 14 calendar days of the completion of the retro-reflectivity measurement. Line segments may be re-striped with no additional payment. Following each re-striping, additional retro-reflectivity measurements shall be made with no additional payment. Quality adjustments will be based on the final retro-reflectivity measurements. The alignment of all re-striped pavement markings shall be placed within $\pm 1/4$ in. in width and ± 2 in. in length of the original placed markings. Restriping will not be allowed more than two times, after which removal and replacement of the markings will be required

SECTION 808, BEGIN LINE 355, DELETE AND INSERT AS FOLLOWS:

When the initial average retro-reflectivity measurement is below the required minimum the segment of line shall be removed and replaced with no additional payment. Pavement markings segments which have more than ~~five~~^{four} of 2016 individual readings below the minimum required shall be removed and replaced with no additional payment.

SECTION 808, BEGIN LINE 373, DELETE AND INSERT AS FOLLOWS:

When the initial average retro-reflectivity measurement is below the required minimum the segment of line shall be removed and replaced with no additional payment. Pavement markings segments which have more than ~~five~~^{four} of 2016 individual readings below the minimum required shall be removed and replaced with no additional payment.

SECTION 808, BEGIN LINE 394, DELETE AND INSERT AS FOLLOWS:

Pavement marking segments which are found to have an average retro-reflectivity reading below the required minimum shall be re-striped with no additional payment. Pavement markings segments which have more than ~~five~~^{four} of 2016 individual readings below the minimum required shall be re-striped with no additional payment. The restriping shall begin within 14 calendar days of the completion of the retro-reflectivity measurement. Line segments may be re-striped with no additional payment. Following each re-striping, additional retro-reflectivity measurements shall be made with no additional payment. Quality adjustments will be based on the final retro-reflectivity measurements. The alignment of all re-striped markings shall be placed within $\pm 1/4$ in. in width and ± 2.0 in. in length of the original placed markings. Re-striping will not be allowed more than two times, after which removal and replacement of the markings will be required.

COMMENTS AND ACTION

808-T-xxx RETRO-REFLECTIVITY TESTING (PROPOSED NEW)

DISCUSSION:

This item was introduced and presented by Mr. Boruff who explained that Indiana Test Method, ITM, 802 on random sampling and ITM 931 on pavement marking retro-reflectivity testing were both revised recently. The changes provide clarity on how many lines will be measured on two-lane and multilane highways. While the total number of readings will increase in many cases, since both white edgelines will be measured separately on two-lane highways, the number of readings per sampling zone has been reduced from 20 to 16. Standard Specification section 808.07 has four instances that reference the old 20 reading standard.

Mr. Boruff proposed to update 808.07 based on the recent changes to ITM 802 and ITM 931.

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

Motion: Mr. Boruff Second: Mr. Dave Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 808.07 pg 898 and 899.	<input checked="" type="checkbox"/> 2022 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in: NONE	<input checked="" type="checkbox"/> Create RSP (No. <u>808-T-223</u>) Effective: <u>June 1, 2020</u> RSP Sunset Date: <u>2022 SS book</u>
Standard Drawing affected: NONE	<input type="checkbox"/> Revise RSP (No. <u> </u>) Effective: RSP Sunset Date:
Design Manual Sections affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references: NONE	<input type="checkbox"/> Create RPD (No. <u> </u>) Effective: <input type="checkbox"/> GIFE Update <input checked="" type="checkbox"/> SiteManager Update

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

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The use of digital printing for traffic signs has increased in recent years and INDOT's Standard Specifications do not address digital sign printing. Also, sheet signs are rarely made with demountable lettering now and the process adds unnecessary cost to panel signs.

Additionally, the 2018 AASHTO Roadway Lighting Design Guide recommends using panel signs with Type XI sheeting for certain applications. However, for design and construction purposes it would be more practical to use Type XI sheeting on all panel signs to implement this recommendation.

Lastly, after a review of other state DOT specifications and a field study conducted earlier this year, it was determined that the use of Type VIII or higher reflective sheeting should be used for sheet signs having a red background instead of Type IV or higher.

PROPOSED SOLUTION: Update Section 919.01 to provide for digital sign printing, make demountable lettering optional, use Type XIII or higher sheeting on red background sheet signs, and Type XI sheeting on panel signs.

APPLICABLE STANDARD SPECIFICATIONS: 919.01

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: Yes, Traffic Standards Subcommittee

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Bruno, on behalf of Dave Boruff

Title: Sr. Engineer of Signals & Markings

Organization: INDOT Traffic Engineering Division

Phone Number: (317) 234-7949

Date: 10/31/2019

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

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? Yes

Congestion/travel time? No

Ride quality? Yes

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? Yes

For construction workers? No

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? 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? 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 STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

919-M-xxx TRAFFIC SIGNS (PROPOSED NEW)

919-M-XXX TRAFFIC SIGNS

(Adopted xx-xx-19)

The Standard Specifications are revised as follows:

SECTION 919, AFTER LINE 39, INSERT AS FOLLOWS:

Digital printed signs shall have transparent and opaque durable ink as recommended by the manufacturer. Digital printed colors shall have a warranty life of the base reflective sign sheeting. Digital applied colors shall present a smooth surface, free from the foreign material, bubbles, blemishes, streaks or spotted areas, and all messages and borders shall be clear and sharp. Digital printed signs shall meet the daytime color and luminance, and night time color requirements of ASTM D 4956. No variations in color or overlapping of colors shall will not be allowed.

All digital printed signs shall be from an integrated engineered match component system consisting of including reflective sheeting, durable inks, and clear overlay film all from the same manufacturer applied to aluminum substrate in accordance with section 919.01(a)1. Only digital printers recommended by the manufacturer of the reflective sheeting shall be used. Each digital printer shall only use the compatible reflective sign sheeting manufacturer's engineered match component system products.

Finished digital printed signs shall have a UV-protective clear overlay applied to the entire face of the signs. Overlay shall be part of an integrated component system as recommended by the reflective sheeting manufacturer. On temporary construction signs digitally printed with black ink only, the protective overlay film is optional, as long as the finished digital printed sign has a warranty of a minimum of three years.

A non prorated manufacturer's written warranty, against delamination, blistering, discoloration, or 15% or greater loss of retro reflectivity compared with the minimum initial ASTM D 4956 value, shall be provided to and in favor of the Department by the reflective sheeting manufacturer. The warranty shall cover a period of seven years.

SECTION 919, BEGIN LINE 73, DELETE AND INSERT AS FOLLOWS:

3. Demountable Letters, Numbers, and Symbols

If demountable letters, numbers, or symbols are used, the backing material for letters, numbers, and symbols shall be 0.040 in. thick aluminum sheets in accordance with ASTM B 209, alloy 3003-H14. Borders shall be 0.032 in. thick aluminum sheet in accordance with ASTM B 209, alloy 6061-T6.

(b) Sheeting Material

Only sheeting materials from the Department's list of approved Sign Sheeting Materials shall be used for Type IV through Type X sheeting. Type IV or higher sheeting shall be used for all sheet signs except as provided specified herein highway signs. For contracts let on or after September 1, 2020, Type VIII or higher reflective sheeting shall

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

919-M-xxx TRAFFIC SIGNS (PROPOSED NEW)

be used for sheet signs with a red background color and Type XI sheeting shall be used for all panel signs. Type XI highway sheeting shall be from the Department's list of approved Sign Sheeting Materials or from a manufacturer that has complete test results from the National Transportation Product Evaluation Program, NTPEP, showing that the ASTM D 4956 minimum requirements have been met. A type C certification in accordance with 916 shall be furnished for Type XI sheeting. The sheeting type for the sign copy and border shall be the same type or higher than the sheeting type used for the background. Sheeting materials will be placed and maintained on the Department's approved list in accordance with ITM 930.

A non-prorated manufacturer's written warranty, against delamination, blistering, discoloration, or 15% or greater loss of retro-reflectivity compared with the minimum initial ASTM D 4956 value, shall be provided to, and in favor of, the Department by the reflective sheeting manufacturer. The warranty shall cover a period of 10 years.

SECTION 919, BEGIN LINE 115, DELETE AND INSERT AS FOLLOWS:

(c) Letters, Numbers, and Symbols, and Accessories

Letters, numbers, and symbols, and accessories shall *may* be demountable.

COMMENTS AND ACTION

919-M-xxx TRAFFIC SIGNS (PROPOSED NEW)

DISCUSSION:

Mr. Boruff introduced and presented this item stating that the use of digital printing for traffic signs has increased in recent years and INDOT's Standard Specifications do not address digital sign printing. Also, sheet signs are rarely made with demountable lettering now and the process adds unnecessary costs to panel signs. Mr. Boruff also stated that the 2018 AASHTO Roadway Lighting Design Guide recommends using panel signs with Type XI sheeting for certain applications. For design and construction purposes, it would be more practical to use Type XI sheeting on all panel signs to implement this recommendation.

Mr. Boruff also explained that after a review of other state DOT specifications and a field study conducted earlier this year, it was determined that the use of Type VIII or higher reflective sheeting should be used for sheet signs having a red background instead of Type IV or higher.

Mr. Boruff therefore proposed to update 919.01 to provide for digital sign printing, make demountable lettering optional, use Type XIII or higher sheeting on red background sheet signs, and Type XI sheeting on panel signs.

Mr. Koch asked if the warranty is intended for all signs, or just for the digitally printed signs? If just for the digitally printed signs, then how will the field personnel know to request the warranty? Mr. Koch also asked if the frequency manual should be updated since field personnel will generally look there instead of looking in 919.

Mr. Boruff responded that yes, the warranty requirement is intended for all reflective sheeting, not just the digitally printed signs. For clarification, this paragraph has been relocated as shown, after line 84 in 919. Mr. Boruff agreed with Mr. Pankow in that that updating the frequency manual is a good idea. Further editorial revisions, as recommended by Mr. Boruff for clarification, are as shown.

Mr. Garg provided an example and a brief explanation of what is meant by "overlapping colors". It's not that they "overlap", but that they will not be intermixed within certain areas of use.

Following further discussion concerning the warranty and who and where it will be stored, it was agreed and understood that the warranty information will be gathered and stored by the District Traffic Division and kept with the FCR. The general consensus is that the main reason for requiring the warranty is to ensure that we get a product that the manufacturer would be willing to warranty. Mr. Meeks, with 3M, verified that the warranty issues rarely occur. Following further discussion, the warranty references were revised as shown.

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

BFU = For all contracts with sign pay items.

COMMENTS AND ACTION

919-M-xxx TRAFFIC SIGNS (PROPOSED NEW)

[CONTINUED]

Motion: Mr. Boruff Second: Mr. Dave Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 919.01 pg 1079.	<input checked="" type="checkbox"/> 2022 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in: NONE	<input checked="" type="checkbox"/> Create RSP (No. <u>919-M-054</u>) Effective: <u>June 1, 2020</u> RSP Sunset Date: <u>2022 SS book</u>
Standard Drawing affected: NONE	<input type="checkbox"/> Revise RSP (No. <u> </u>) Effective: RSP Sunset Date:
Design Manual Sections affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references: NONE	<input type="checkbox"/> Create RPD (No. <u> </u>) Effective: <input type="checkbox"/> GIFE Update <input type="checkbox"/> SiteManager Update

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

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: INDOT is currently changing from the HP laptop/tablet hybrid as a computer device and switching to an IOT supplied device. We are making an effort to keep our Field Office spec in line with our current technology at our District and Central Office locations.

PROPOSED SOLUTION: Modify the current 628 spec to follow current standards at INDOT

APPLICABLE STANDARD SPECIFICATIONS: 628

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: Field Office Pay Items

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IMPACT ANALYSIS (attach report): N/A

Submitted By: Greg Logman for Joe Novak

Title: Operation Analyst

Organization: INDOT

Phone Number: 317-233-8577

Date: 10-28-19

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

IMPACT ANALYSIS REPORT CHECKLIST

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

Does this item appear in any other specification sections? No

Will approval of this item affect the Approved Materials List? No

Will this proposal improve:

Construction costs? No

Construction time? Yes

Customer satisfaction? Yes

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? No

Design process? No

Will this change provide the contractor more flexibility? No

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

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

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: Help keep INDOT current with technology standards.

REVISION TO STANDARD SPECIFICATIONS

SECTION 628 – FIELD OFFICE, FIELD LABORATORY, COMPUTER SYSTEM, COMPUTER SYSTEM EQUIPMENT, OFFICE

MACHINES AND COMMUNICATIONS

628.02 FIELD OFFICE AND LABORATORY REQUIREMENTS

628.03 MOBILE INTERNET SERVICE

The Standard Specifications are revised as follows:

SECTION 628, BEGIN LINE 170, DELETE AND INSERT AS FOLLOWS:

(c) Computer System and Computer System Equipment

When specified in the Schedule of Pay Items, the Contractor shall provide the computer system and computer system equipment in accordance with the minimum requirements listed below for the Department's exclusive use for each field office.

1. Computer System

- a. Laptop computer
- b. Processor – Intel ~~or AMD~~ compatible, *minimum dual-core 2.0 GHz*
- c. Memory – 8.0 GB, ~~1333~~ 1866-MHz
- d. Hard Drive – 500 GB, 5,400/7,200 rpm or 128/256 GB SSD (Solid State Drive)
- e. Ports – Two USB 2.0 compliant ports, *one USB 3.0 compliant port*
- f. Network/Wireless – Ethernet or wireless card to be compatible with the selected internet and office network connections
- g. Graphics – Integrated graphics card
- h. Display – *Minimum* 15 in. ~~WX~~ GA1366 by 768 LCD panel
- i. Battery – ~~Nine~~ *Minimum* 3-cell Lithium ion
- j. Miscellaneous - One ~~compatible port replicator~~ *laptop docking station compatible with the Monitor(s)*, with AC adapter, one additional AC adapter, one DC adapter, and one padded carrying case.

The initial condition of the computer system shall be nearly pristine. All owner installed e-mail accounts, games, spyware, online services, applications, network or other profiles previously set up on the system shall be removed prior to placement in the field office. If the system was provided for a previous Department contract, all software not specified shall be removed prior to placement in the current field office.

The Contractor shall provide a minimum 900 J, six-outlet surge protector for each computer system specified in the contract.

2. Computer System Equipment

- a. Monitor – *Minimum* 22 in. ~~widescreen~~ digital flat ~~digital~~ panel with ~~VGA and DVI connections~~ that enables connectivity to *DisplayPort and HDMI connections or an adapter*
- b. Keyboard – ~~enhanced~~ multimedia keyboard
- c. Mouse – Optical USB 2-button scroll mouse
- d. Miscellaneous - One ~~port replicator~~ *laptop docking station compatible with the Monitor(s)*, with AC adapter, one additional AC

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adapter, one DC adapter that is compatible with the Department's provided laptop or mobile device, *and one minimum 900 J six-outlet surge protector.*

3. Computer Software

The Contractor shall provide software for the computer system in accordance with the minimum requirements listed below.

- a. Operating System Software – Windows 10 Professional.
- b. Productivity Software – Microsoft Office 2013 Small Business and Adobe Acrobat Professional ~~X1DC~~.
- c. Security Software – McAfee ~~Virus Scan Plus~~*Total Protection.*

SECTION 628, BEGIN LINE 244, DELETE AND INSERT AS FOLLOWS:

The Department will be utilizing the computer system to run or access Department provided construction management software applications. These applications are known to run on Intel ~~and AMD~~ compatible equipment when using the Windows 10 Professional operating system. If the Department experiences problems running these applications due to hardware or software compatibility, the Contractor shall replace the equipment to ensure compatibility to the satisfaction of the Engineer within five business days.

The computer system shall be maintained in good working order. If a portion of the system becomes defective, inoperable, damaged, or stolen, that portion shall be repaired or replaced within five business days after the Contractor is notified by the Engineer. If the computer system and related accessories are not maintained by the Contractor as required, the Engineer may withhold partial payments until the computer system is operational to the Department's satisfaction.

(d) Field Office Internet Service

The Contractor shall provide broadband internet service for the field office. Broadband internet service shall be capable of a minimum average ~~upload~~*download* speed of 550 Mbps and a minimum ~~download~~*upload* speed of 505 Mbps, unless otherwise approved by the Engineer.

SECTION 628, BEGIN LINE 302, DELETE AND INSERT AS FOLLOWS:

4. Miscellaneous Office Machine Requirements

The Contractor shall provide letter, legal and ledger size paper, ink cartridges and toner as required by the Engineer for the operation of each piece of equipment provided.

If any office machine becomes defective, inoperable, damaged, ~~or~~–stolen, *or incompatible with the Department provided devices*, that machine shall be repaired or replaced within five business days after the Contractor is notified by the Engineer. If any

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of the office machines are not maintained by the Contractor as required, the Engineer may withhold partial payments until the machine is operational to the Department's satisfaction.

SECTION 628, BEGIN LINE 333, DELETE AND INSERT AS FOLLOWS:

628.03 Mobile Internet Service

When specified, the Contractor shall provide mobile internet service for the Department's exclusive use.

The mobile broadband internet service access device will be used by the Department in a laptop computer provided by either the Contractor or the Department.

The device shall connect to the laptop via a USB 2.0 *or* USB 3.0 compliant port, or by wireless means. The device and service shall be capable of a minimum 3G speed. The internet service rate plan shall include unlimited data and time usage with no roaming charge for national domestic use. All software necessary for the operation of the device shall be provided to the Engineer.

COMMENTS AND ACTION

628.02 FIELD OFFICE AND LABORATORY REQUIREMENTS
628.03 MOBILE INTERNET SERVICE

DISCUSSION:

This item was introduced and presented by Mr. Culbertson, sitting in for Mr. Novak, who explained that INDOT is currently changing from the HP laptop/tablet hybrid as a computer device and switching to an IOT supplied device. We are making an effort to keep our Field Office spec in line with our current technology at our District and Central Office locations.

Mr. Culbertson proposed to revise the current 628 language to follow current Department standards.

Mr. Capper, with Jobsite Mobile Offices, asked for clarification of the revisions regarding the port replicator vs. the laptop docking station. Mr. Hauser confirmed that they are essentially the same thing, just different terminology.

Mr. Koch asked about allowing a wireless keyboard and mouse combo since one of the USB ports becomes blocked when the laptop is attached to the docking station. Mr. Culbertson responded that previous experience has resulted in wireless pairing devices not being turned in or lost at the end of projects, not to mention the need for batteries for the associated equipment. Further, shouldn't the Contractor have the option to supply either wired or wireless devices at his discretion and availability? Mr. Culbertson also pointed out that even though one of the laptops USB ports is blocked by the docking station, the docking station itself provides at least three additional USB ports, so the one blocked port should not be an issue. Mr. Culbertson stated that the wired/wireless issue can be discussed at a later date.

Mr. Koch also asked about adding language which would include an outlet surge protector under the Computer System Equipment requirements. Mr. Culbertson agreed and that revised language is as shown above in 628.02(c)2.

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

COMMENTS AND ACTION

628.02 FIELD OFFICE AND LABORATORY REQUIREMENTS
 628.03 MOBILE INTERNET SERVICE

[CONTINUED]

Motion: Mr. Culbertson Second: Mr. Hauser Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 628 pg 546 thru 551.	<input checked="" type="checkbox"/> 2022 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in: NONE	<input checked="" type="checkbox"/> Create RSP (No. <u>628-C-265</u>) Effective: <u>June 1, 2020</u> RSP Sunset Date: <u>2022 SS book</u>
Standard Drawing affected: NONE	<input type="checkbox"/> Revise RSP (No. <u> </u>) Effective: RSP Sunset Date:
Design Manual Sections affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references: NONE	<input type="checkbox"/> Create RPD (No. <u> </u>) Effective: <input type="checkbox"/> GIFE Update <input type="checkbox"/> SiteManager Update