

IOWA DEPARTMENT OF TRANSPORTATION

To Office: Specification Committee

Date: September 28, 2026

Attention:

Ref. No.: 305

From: Eric Johnsen, P.E.

Office: Specifications

Subject: Agenda for October 8, 2026, Specification Committee Meeting

The Specification Committee will meet on Thursday, October 8, 2026, at 9:00 a.m.

The agenda is as follows:

1. Article 1107.02, A, 1, b, Insurance.

The Contracts and Specifications Bureau requests to correct the recent revision to the insurance specifications.

2. Article 1107.18, A, Protection of Water Quality and Wetlands (Environmental Protection).

The Construction and Materials and Maintenance Bureaus requests to prohibit discharge from concrete operations into drainage facilities or waterbodies.

3. Article 2301.04, A, 2, c, Portland Cement Concrete Paving.

The Construction and Materials Bureau requests to allow for non-destructive thickness evaluation for Local Systems Projects.

4. Article 2526.03, Survey (Construction Survey).

The Construction and Materials Bureau request to clarify how temporary easements are to be marked in the field.

5. Article 2529.02, B, 8, Full Depth Finish Patches.

The Construction and Materials Bureau requests to address issues with cold-weather patching.

6. Article 4169.02, A, Seeds (Erosion Control).

The Construction and Materials Bureau requests to update the seed tables.

7. DS-23059, PCC Pavement Non-Destructive Thickness Determination Contractor Quality Control and Acceptance for Local Systems.

The Construction and Materials Bureau requests to update the Developmental Specifications for PCC Pavement Non-Destructive Thickness Determination Contractor Quality Control and Acceptance for Local Systems.

Form 510130 (07-24)



SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Eric Johnsen		Bureau/Office: Specifications	Item 1
Submittal Date: 9/21/2026		Proposed Effective Date: 4/20/2027	
Article No.: 1107.02, A, 1, b Title: Insurance		Other:	
Specification Committee Action:			
Deferred:	Not Approved:	Approved Date:	Effective Date:
Specification Committee Approved Text:			
Comments:			
Specification Section Recommended Text: 1107.02, A, 1, b. Replace the first sentence: Certificates of insurance for Iowa DOT or county contracts may shall be statewide or contract specific per instructions provided by the Contracts and Specifications Bureau.			
Comments:			
Member's Requested Change: (Do not use ' <u>Track Changes</u> ', or ' <u>Mark-Up</u> '. Use Strikeout and Highlight .)			
Reason for Revision: Correct recently revised instructions for submitting insurance certifications to the current practice.			
New Bid Item Required (X one)	Yes	No X	
Bid Item Modification Required (X one)	Yes	No X	
Bid Item Obsolescence Required (X one)	Yes	No X	
Comments:			
County or City Comments:			
Industry Comments:			

Form 510130 (07-24)



SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Scott Nixon/Melissa Serio		Bureau/Office: Construction & Materials	Item 2
Submittal Date: 9/21/26		Proposed Effective Date: April 2027 GS	
Article No.: 1107.18, A Title: Protection of Water Quality and Wetlands (Environmental Protection)		Other:	
Specification Committee Action:			
Deferred:	Not Approved:	Approved Date:	Effective Date:
Specification Committee Approved Text:			
Comments:			
Specification Section Recommended Text: 1107.18, A, Protection of Water Quality and Wetlands. Add the Article: 5. Do not allow discharge of concrete slurry, washout, or wash water residue from concrete wet saw cutting, grooving, or grinding into drainage facilities or waterbodies.			
Comments:			
Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight.) 1107.18, A Add the Article: 5. Do not allow discharge of concrete slurry, washout, or wash water or residue from concrete wet saw cutting, grooving, or grinding into drainage facilities or waterbodies.			
Reason for Revision: Add language to 1107 to not discharge wastewater from concrete operations into a waterbody or drainage facility. Similar references to "drainage facilities" or "waterbodies" exist in other spec sections (2412: Concrete Bridge Decks, 2532: Pavement Surface Repair – Diamond Grinding, and 2531: Pavement Surface Repair – Milling).			
New Bid Item Required (X one)	Yes	No x	
Bid Item Modification Required (X one)	Yes	No x	
Bid Item Obsolescence Required (X one)	Yes	No x	
Comments: None			
County or City Comments:			
Industry Comments: Support from industry – but wondered if clarity was need for "drainage facilities" or "waterbodies". No suggestions provided.			

Form 510130 (07-24)



SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Scott Nixon		Bureau/Office: Construction & Materials	Item 3
Submittal Date: October 2026		Proposed Effective Date: April 2027	
Article No.: 2301 Title: Portland Cement Concrete Pavement		Other:	
Specification Committee Action:			
Deferred:	Not Approved:	Approved Date:	Effective Date:
Specification Committee Approved Text:			
Comments:			
Specification Section Recommended Text: 2301.04, A, 2, c. Replace the Article: For non-Primary projects evaluate pavement thickness for sections of the same design thickness more than 3500 square yards by coring according to Materials I.M. 346 Method B. If available, non-destructive testing methods may be utilized. The specification will be adopted in its entirety.			
Comments:			
Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight.) 2301.04 METHOD OF MEASUREMENT. Measurement will be as follows: A. Portland Cement Concrete Pavement. 1. Square yards, of the type specified, shown in the contract documents. The area of manholes, intakes, or other fixtures in the pavement will not be deducted from the measured pavement area. 2. Requirements for thickness do not apply to detour pavements, paved drives, and temporary pavements. The thickness of pavement constructed will be determined as follows: a. The division of sections, lots, and thickness measurement locations will be determined by the Engineer according to Materials I.M. 346. b. For Interstate and Primary projects, evaluate pavement thickness for sections of the same design thickness more than 3500 square yards using non-destructive testing according to Materials I.M. 346 Method A. c. For non-Primary projects evaluate pavement thickness for sections of the same design thickness more than 3500 square yards by coring according to Materials I.M. 346 Method B. If available, non-destructive testing methods may be utilized. The specification will be adopted in its entirety. d. Determine thickness for sections of the same design thickness 3500 square yards or less, by probing plastic concrete in accordance with Materials I.M. 396. e. Only sections which are evaluated for thickness will be included in the thickness index determination. Areas not evaluated for thickness will be paid for at the contract unit price.			
Reason for Revision: To accommodate non-destructive thickness evaluation on projects for local			

systems. Adding survey to IM 346 for local systems.		
New Bid Item Required (X one)	Yes X	No
Bid Item Modification Required (X one)	Yes	No x
Bid Item Obsolescence Required (X one)	Yes	No x
Comments: Add new bid item PCC Samples – Non-Destructive Thickness to pay for plates.		
County or City Comments:		
Industry Comments: Industry, CMB, met with Local Systems to agree with specification updates.		

Form 510130 (07-24)



SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Scott Nixon/Elijah Gansen		Bureau/Office: Construction and Materials Bureau	Item 4
Submittal Date: 10/24/2026		Proposed Effective Date: April 2027	
Article No.: 2526.03 Title: Survey (Construction Survey)		Other:	
Specification Committee Action:			
Deferred:	Not Approved:	Approved Date:	Effective Date:
Specification Committee Approved Text:			
Comments:			
Specification Section Recommended Text: 2526.03, A, 3, a. Replace the Article: ASCII comma-delimited file of the coordinates formatted as: point number, northing, easting, elevation (approximate elevations only), and feature code (using the feature code list found in the Design Manual chapter 40B-1) with point description (a brief description of what was found or set). Identify coordinate system used. 2526.03, D, 2. Replace Articles a through d: a. A comma delineated ASCII point coordinate list will be provided by the Contracting Authority. The coordinate basis will be defined and provided by the Contracting Authority. The file format will be as follows: • Point Number, • Northing, • Easting, • Elevation (approximate elevations only), • Feature Code and • Description of what was found or set. (if applicable) b. Set Aa 5/8 inch by 40 inch steel re-rod with an Iowa DOT aluminum cap or an equivalent land surveyors cap that includes their PLS number or a 3/4 inch I.D. by 30 inch iron pipe with a PLS plastic cap that includes their PLS number will be set as the permanent right of way monumentation. Monument temporary easement points with lath that has "TEMP. EASE." written on them. (Do not monument temporary easement points with re-rod or pipe.) If the temporary easement point(s) falls within a concrete, asphalt, or solid rock surface, contact the Engineer for guidance. c. Set Aa green steel post with a "ROW" sign will be set within the new right of way, no more than a foot away from the right of way point. (Materials will be provided by the contracting authority.) Seek guidance from the Engineer if "ROW" signs and posts are to be set within the corporate limits of a town or city. Lath with "ROW" written on it, can be set instead. Do not set "ROW" signs and posts in driveways (including field entrances) or concrete, asphalt, or solid			

rock surfaces.

- d. A check shot will be taken on the set monumentation to acquire a set of coordinates that will have the same coordinate basis as what was provided in number one Article 2526.03, D, 2, a as well as have the file format as follows:
 - Point Number,
 - Northing,
 - Easting,
 - Elevation (approximate elevations only),
 - Feature Code and
 - Description of what was set.

2526.03, D, ROW Survey.

Add the Article:

3. On projects where temporary easement is specified but no G Sheet information is provided refer to the H sheets for the number of temporary easement points that need to be set for the project. Use the alignment and alignment information provided to set these points. Lath with "TEMP. EASE." written on them will be set for monumentation. If it is impractical to set lath for monumentation, as on a concrete or asphalt surface, contact the Engineer in charge for guidance.

Comments:

Member's Requested Change: 23060.03, B, 1 (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight.)

2526.03, A, 3,

- a. ASCII comma-delimited file of the coordinates formatted as: point number, northing, easting, elevation (approximate elevations only), and feature code (using the feature code list found in the Design Manual chapter 40B-1) with point description (a brief description of what was found or set). Identify coordinate system used.

2526.03, D, 2,

- a. A comma delineated ASCII point coordinate list will be...
 - Point number,
 - Northing,
 - Easting,
 - Elevation (approximate elevations only),
- b. A 5/8" by 40 inch steel re-rod with an Iowa DOT aluminum cap or an equivalent land surveyors cap that includes their PLS number or a 3/4" I.D. by 30" iron pipe with a P.L.S. plastic cap that includes their PLS number will be set as the permanent right of way monumentation. Temporary easement points are to be monumented with lath that has "TEMP. EASE." written on them. (Do not monument temporary easement points with re-rod or pipe.) If the temporary easement point(s) falls within a concrete, asphalt, or solid rock surface, contact the engineer in charge for guidance.
- c. A green steel post with a "ROW" sign will be set within the new right of way, no more than a foot away from the right of way point. (Materials will be provided by the contracting authority.) Seek guidance from the Engineer if "ROW" signs and posts shall be set within the corp. limits of a town or city. Lath with "ROW" written on them, can be set in their place. "ROW" signs and posts shall not be set in driveways (including field entrances) and concrete, asphalt, or solid rock surfaces.
- d. A check shot will be taken on the set monumentation to acquire a set of coordinates that will have the same coordinate basis as what was provided in number one as well as have the file format as follows:
 - Point Number,

• Northing, • Easting, • Elevation (approximate elevations only),		
2526.03, D, 3 On projects where temporary easement is specified but no G Sheet information is provided refer to the H sheets for the number of temporary easement points that need to be set for the project. Use the alignment and alignment information provided to set these points. Lath with "TEMP. EASE." written on them will be set for monumentation. If it is impractical to set lath for monumentation, as on a concrete or asphalt surface, contact the Engineer in charge for guidance.		
Reason for Revision: Additional information was needed to clarify how temporary easements are to be marked in the field.		
New Bid Item Required (X one)	Yes	No X
Bid Item Modification Required (X one)	Yes	No X
Bid Item Obsolescence Required (X one)	Yes	No X
Comments:		
County or City Comments: None		
Industry Comments: None		

Form 510130 (07-24)



SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Scott Nixon		Bureau/Office: Construction & Materials	Item 5
Submittal Date: 9/24/2026		Proposed Effective Date: April 2027	
Article No.: 2529.02, B, 8 Title: Full Depth Finish Patches		Other:	
Specification Committee Action:			
Deferred:	Not Approved:	Approved Date:	Effective Date:
Specification Committee Approved Text:			
Comments:			
Specification Section Recommended Text: 2529.02, B, 8, Transit Mix Concrete. Replace the title and Article: Transit Mix Concrete Mixing Equipment. a. Transit Mixed: Use a mix from a plant from which the concrete can be delivered and placed within 60 minutes from the time of mixing. The time may be extended to 90 minutes when a retarding admixture, used according to Materials I.M. 403 including temperature dosage guidelines (and at no additional cost to the Contracting Authority), is added at the plant. Continuous mixing equipment using volumetric proportioning may be used according to Article 2001.20, E. Place the concrete within 30 minutes after introduction of calcium chloride. b. Volumetric Mixed: Use continuous mixing equipment with volumetric proportioning according to Article 2001.20, E and Materials I.M. 534. For 5 hour patches placed between October 16 and April 30, with overnight lows below 55°F, use rapid set patch material in accordance with Materials I.M. 491.20 and manufacturers recommendations.			
Comments:			
2529.02 MATERIALS. B. Portland Cement Concrete. 8. Transit Mix Concrete Mixing Equipment. a. Transit Mixed - Use a mix from a plant from which the concrete can be delivered and placed within 60 minutes from the time of mixing. The time may be extended to 90 minutes when a retarding admixture, used according to Materials I.M. 403 including temperature dosage guidelines (and at no additional cost to the Contracting Authority), is added at the plant. Continuous mixing equipment using volumetric proportioning may be used according to Article 2001.20, E. Place the concrete within 30 minutes after introduction of calcium chloride. b. Volumetric Mixed – Use continuous mixing equipment with volumetric proportioning according to Article 2001.20, E and Materials I.M. 534. For 5 hour patches placed between October 16 and April 30, with overnight lows below 55°F, use rapid set patch material in accordance with Materials I.M. 491.20 and manufacturers recommendations.			
Reason for Revision: Issues with 5 hour patches in cold weather when using a volumetric mixer.			

Much harder to heat the concrete. Likely need longer curing time. Alternately, the best method is to require rapid set patch materials for the short cure time in cold weather.		
New Bid Item Required (X one)	Yes	No X
Bid Item Modification Required (X one)	Yes	No X
Bid Item Obsolescence Required (X one)	Yes	No X
Comments:		
County or City Comments:		
Industry Comments: Sent to ICPA/IRMCA		

Form 510130 (07-24)



SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Scott Nixon/Melissa Serio	Office: Construction & Materials	Item 6
Submittal Date: 9/21/26	Proposed Effective Date: April 2027 GS	
Article No.: 4169.02, A Title: Seeds (Erosion Control Materials)	Other:	

Specification Committee Action:

Deferred:	Not Approved:	Approved Date:	Effective Date:
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Specification Committee Approved Text:

Comments:

Specification Section Recommended Text:

4169.02, A.

Replace Table 4169.02-1:

Table 4169.02-1: Seeds (Common Names, Scientific Names, Purity, and Germination)

Common Name	Type	Scientific Name	Purity (%) (Min.)	Germination (%) (Min.)
Alkali Grass	Domestic Grass	Puccinellia Distans	90 95	95 90
Bluegrass, Kentucky	Domestic Grass	Poa pratensis	85	80
Bluegrass, Ky. RAM-1	Domestic Grass	Poa pratensis-RAM-1	95	85
Bluegrass, Ky. PARK	Domestic Grass	Poa pratensis-PARK	95	85
Brome, smooth-LINCOLN	Domestic Grass	Bromus inermis	90	85
Fescue, tall, FAWN	Domestic Grass	Festuca arundinacea-FAWN	98	85
Fescue, tall, turf-type	Domestic Grass	Festuca Arundinacea	90 95	95 90
Fescue, chewings, red	Domestic Grass	Festuca rubra var. commutate	98	90
Fescue, creeping, red	Domestic Grass	Festuca rubra	98	85
Fescue, hard fine	Domestic Grass	Festuca Ovina Spp. Duriuscula	90 95	95 90
Fescue, red-PENNLAWN	Domestic Grass	Festuca rubra PENNLAWN	98	85
Fescue, Tall, Olympic (Fineleaf)	Domestic Grass	Festuca arundinacea-Olympic	98	85
Fescue, Tall, Rebel (Fineleaf)	Domestic Grass	Festuca arundinacea	98	85
Fescue, Sheeps	Domestic Grass	Festuca ovina	90 95	95 90
Orchardgrass	Domestic Grass	Dactylis glomerata	90	90
Red top	Domestic Grass	Agrostis alba	92	85
Wildrye, Canada	Domestic Grass	Elymus Canadensis	95	85
Ryegrass, Perennial	Domestic Grass	Lolium perenne	95	90
Timothy	Domestic Grass	Phleum pratense	99	85
Wheatgrass, crested	Domestic Grass	Agropyron Cristatum	90 95	95 90

Alfalfa, RANGER/VERNAL	Legume	Medicago sativa	99	90 ^(a)
Alfalfa, Travois	Legume	Medicago spp.	99	90 ^(a)
Red Clover, medium	Legume	Trifolium pretense	99	90 ^(a)
Oats	Nurse or Stabilizing Crop	Avena sativa	97	90
Grain Rye	Nurse or Stabilizing Crop	Secale cereale	97	90

^{a)} Includes hard seed.

Table 4169.02-2: Seeds (Common Names, and Scientific Names, and PLS)

Common Names	Type	Scientific Names	PLS (%)
Big Bluestem*	Native Grass	Andropogon gerardii	30
Little Bluestem*	Native Grass	Andropogon scoparius	30
Switchgrass*	Native Grass	Panicum virgatum	63
Indiangrass*	Native Grass	Sorghastrum nutans	30
Sorghastrum nutans	Native Grass	Bouteloua curtipendula	30
Western Wheatgrass*	Native Grass	Agropyron smithii	56
Buffalograss*	Native Grass	Buchloe dactyloides	60
Sand Bluestem*	Native Grass	Andropogon gerardii, var. paucipilus	30
Blue Grama	Native Grass	Bouteloua gracilis	30
Intermediate Wheatgrass	Native Grass	Agropyron intermedium	70
Slender Wheatgrass	Native Grass	Agropyron trachycaulum, var. unilaterale	70
Prairie Dropseed	Native Grass	Sporobolus heterolepis	65
Sand Dropseed	Native Grass	Sporobolus cryptandrus	65
Sand Lovegrass	Native Grass	Eragrostis trichodes	65
Weeping Lovegrass	Native Grass	Eragrostis curvula	65
Hairy Wood Chess	Native Grass	Bromus purgans	60
Blue-joint grass	Native Grass	Calamagrostis Canadensis	47
Bottlebrush sedge	Native Grass	Carex comosa	62
Tussock sedge	Native Grass	Carex stricta	78
Fox sedge	Native Grass	Carex vulpinoidea	64
Virginia wild-rye	Native Grass	Elymus virginicus	60
Reed manna grass	Native Grass	Glyceria grandis	50
Fowl manna grass	Native Grass	Glyceria striata	72
Common rush	Native Grass	Juncus effuses	80
Rice Cut Grass	Native Grass	Leesia oryzoides	62
Rye grass, annual	Native Grass	Lolium italicum	89
Fowl bluegrass	Native Grass	Poa palustris	72
Green bulrush	Native Grass	Scirpus atrovirens	45
Wool grass	Native Grass	Scirpus cyperinus	78
Soft-stem bulrush	Native Grass	Scirpus validus	78
Indian grass	Native Grass	Sorghastrum nutans	60
Spike Rush	Native Grass	Eleocharis palustris	74
Canada anemone	Forb	Anemone Canadensis	72
Marsh milkweed	Forb	Asclepias incarnate	25
New England aster	Forb	Aster novae-angliae	25
Swamp aster	Forb	Aster puniceus	25
Showy tic-trefoil	Forb	Desmodium canadense	25
Joe-pye weed	Forb	Eupatorium maculatum	66
Boneset	Forb	Eupatorium perfoliatum	41
Ox Eye sunflower	Forb	Heliopsis helianthoides	38
Blue-flag iris	Forb	Iris virginica-shrevii	19
Meadow blazingstar	Forb	Liatris ligulistylis	24
Tall blazingstar	Forb	Liatris pycnostachya	24
Great blue lobelia	Forb	Lobelia siphilitica	13
Reed manna grass	Forb	Glyceria grandis	50
Fowl manna grass	Forb	Glyceria striata	72
Common Rush	Forb	Juncus effuses	80
Rice Cut Grass	Forb	Leesia oryzoides	62

*Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa.

Comments:

Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use **Strikeout** and **Highlight**.)

4169.02, A

Replace the Table 4169.02-1:

Table 4169.02-1: Seeds (Common Names, Scientific Names, Purity, and Germination)

Common Name	Type	Scientific Name	Purity (%) (Min.)	Germination (%) (Min.)
Alkali Grass	Domestic Grass	Puccinellia Distans	90 95	95 90
Bluegrass, Kentucky	Domestic Grass	Poa pratensis	85	80
Bluegrass, Ky. RAM-1	Domestic Grass	Poa pratensis- RAM-1	95	85
Bluegrass, Ky. PARK	Domestic Grass	Poa pratensis- PARK	95	85
Brome, smooth-LINCOLN	Domestic Grass	Bromus inermis	90	85
Fescue, tall, FAWN	Domestic Grass	Festuca arundinacea- FAWN	98	85
Fescue, tall, turf-type	Domestic Grass	Festuca Arundinacea	90 95	95 90
Fescue, chewings, red	Domestic Grass	Festuca rubra var. commutate	98	90
Fescue, creeping, red	Domestic Grass	Festuca rubra	98	85
Fescue, hard fine	Domestic Grass	Festuca Ovina Spp. Duriuscula	90 95	95 90
Fescue, red-PENNLAWN	Domestic Grass	Festuca rubra PENNLAWN	98	85
Fescue, Tall, Olympic (Fineleaf)	Domestic Grass	Festuca arundinacea- Olympic	98	85
Fescue, Tall, Rebel (Fineleaf)	Domestic Grass	Festuca arundinacea	98	85
Fescue, Sheeps	Domestic Grass	Festuca ovina	90 95	95 90
Orchardgrass	Domestic Grass	Dactylis glomerata	90	90
Red top	Domestic Grass	Agrostis alba	92	85
Wildrye, Canada	Domestic Grass	Elymus Canadensis	95	85
Ryegrass, Perennial	Domestic Grass	Lolium perenne	95	90
Timothy	Domestic Grass	Phleum pratense	99	85
Wheatgrass, crested	Domestic Grass	Agropyron Cristatum	90 95	95 90
Alfalfa, RANGER/VERNAL	Legume	Medicago sativa	99	90 ^(a)
Alfalfa, Travois	Legume	Medicoa spp.	99	90 ^(a)
Red Clover, medium	Legume	Trifolium pretense	99	90 ^(a)
Oats	Nurse or Stabilizing Crop	Avena sativa	97	90
Grain Rrye	Nurse or Stabilizing Crop	Secale cereale	97	90

Delete PLS column in the Table 4169.02-2 and revise title:

(Table 4169.02-2: Seeds (Common Names, and Scientific Names, and PLS):

Reason for Revision: Remove specific cultivars/varieties from table that are outdated. Also, correct germination and purity values that were switched when seed types were incorporated during a previous spec revision. Seed types shown in Table 4169.02-2 (native grasses and forbs) have application rates based on Pure Live Seed (PLS), so minimum PLS percentages are not required.

New Bid Item Required (X one)	Yes	No x
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Bid Item Modification Required (X one)	Yes	No x
Bid Item Obsolescence Required (X one)	Yes	No x
Comments: None		
County or City Comments:		
Industry Comments:		

Form 510130 (07-24)



SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Dillon Feldmann		Bureau/Office: Local Systems	Item 7
Submittal Date: 9/24/2026		Proposed Effective Date: 10/20/2026	
Article No.: Title: Pcc Pavement Non-Destructive Thickness Determination Contractor Quality Control And Acceptance For Local Systems		Other: DS-23059, PCC Pavement Non-Destructive Thickness Determination Contractor Quality Control and Acceptance for Local Systems	
Specification Committee Action:			
Deferred:	Not Approved:	Approved Date:	Effective Date:
Specification Committee Approved Text:			
Comments:			
Specification Section Recommended Text: See attached draft Developmental Specifications for PCC Pavement Non-Destructive Thickness Determination Contractor Quality Control and Acceptance for Local Systems.			
Comments:			
Member's Requested Change: (Do not use ' <u>Track Changes</u> ', or ' <u>Mark-Up</u> '. Use Strikeout and Highlight .) DS-23059 Attached			
Reason for Revision: Allow contractor to measure thickness using MIT gage or survey equipment and other minor clerical updates.			
New Bid Item Required (X one)	Yes	No X	
Bid Item Modification Required (X one)	Yes	No X	
Bid Item Obsolescence Required (X one)	Yes	No X	
Comments:			
County or City Comments:			
Industry Comments:			

DRAFT DS- 23XXX
(Replaces DS-23059)



**DEVELOPMENTAL SPECIFICATIONS
FOR
PCC PAVEMENT NON-DESTRUCTIVE THICKNESS DETERMINATION CONTRACTOR QUALITY
CONTROL AND ACCEPTANCE FOR LOCAL SYSTEMS**

**Effective Date
December 15, 2026**

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

This developmental specification is not to be used on contracts involving the National Highway System (NHS).

Replace [Article 2301.04, A, 2](#) with the following:

- 2.** Requirements for thickness do not apply to detour pavements, paved drives, and temporary pavements. The thickness of pavement constructed will be determined as follows:
 - a.** The division of sections, lots, and thickness measurement locations will be ~~determined by the Engineer according to Materials I.M. 346 according to Appendix A.~~
 - b.** ~~For Interstate and Primary projects, evaluate pavement thickness for sections of the same design thickness more than 3500 square yards using non-destructive testing according to Materials I.M. 346 Method A. At locations determined by the Engineer.~~
 - c.** ~~For non-Primary projects evaluate pavement thickness for sections of the same design thickness more than 3500 square yards by coring according to Materials I.M. 346 Method B. The specification will be adopted in its entirety.~~
 - d.** Determine thickness for sections of the same design thickness 3500 square yards or less, by probing plastic concrete in accordance with [Materials I.M. 396](#).
 - e.** Only sections which are evaluated for thickness will be included in the thickness index determination. Areas not evaluated for thickness will be paid for at the contract unit price.

APPENDIX A EVALUATING PORTLAND CEMENT CONCRETE PAVEMENT THICKNESS

SCOPE

Thickness measurements will be taken on Portland Cement Concrete (PCC) pavement, to determine the pavement thickness and the thickness index for each section. Refer to Developmental Specifications for PCC Pavement Non-Destructive Thickness Determination Contractor Quality Control and Acceptance for Local Systems.

APPARATUS

1. An MIT Scan T2 or T3 gauge will be used to perform thickness measures. Alternately, use survey equipment, capable of 0.005 foot accuracy, measure plates prior to placement and on top of pavement after placement.
2. Steel Targets will be 11.81 inches in diameter, 24 gauge, meeting ASTM A 653, commercial steel with a G90 coating (about 275 g/m² total both sides).

DEFINITIONS

Section: All Portland Cement Concrete in a project of the same bid item. Irregular areas, as defined herein, of the same bid item shall form a separate section. On multiple year projects, a separate section will be formed for each year. If less than 20,000 square yards are placed in 1 year, that section will be grouped with a previous or subsequent year.

Lot: A portion of a section normally 2000 square yards and 2 traffic lanes wide.

Regular area pavement sections:

- All mainline pavement for normal travel lanes. Includes middle (both direction) turn lanes
- Paved shoulder – if same thickness as pavement and part of pavement bid item include with pavement. If separate bid item, treat as separate section.
- Paved median - if same thickness as pavement and part of pavement bid item, and longer than 300 feet, include with pavement.
- Auxiliary lanes of full width longer 300 feet.
- Widening greater than 6 feet.

Irregular areas:

- Widening less than 6 feet.
- Side street connections.
- Ramps, including gore areas, and collector distributor roads.
- Deceleration and acceleration lanes.
- Turn lanes, including taper sections.
- Tapers.
- Radiuses.
- Median crossovers

PROCEDURES

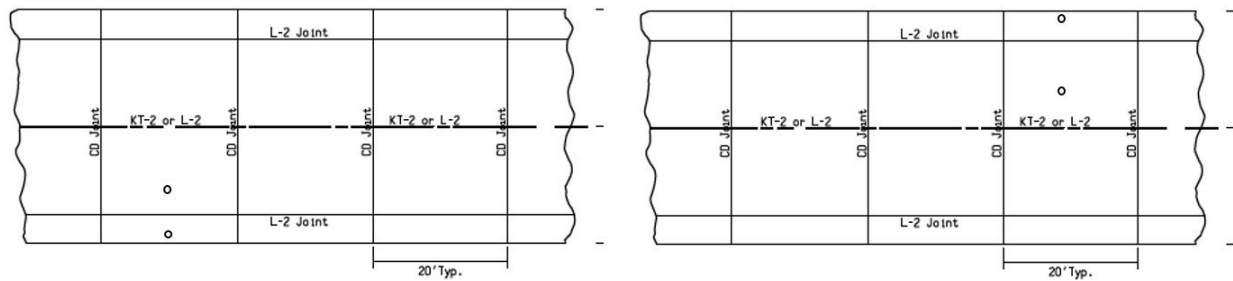
The Engineer will determine the location of each lot, the random location of each metal target, and the random thickness measuring scheme for each section using an Iowa DOT developed MSEXcel spreadsheet. Immediately prior to paving, the Engineer will place the target or observe the contractor place the target.

A. Target Location for Regular Areas

1. Divide the section longitudinally into 2000 square yard lots. One target will be located in each lot based on the spreadsheet selection. Beginning with the first station at +00, place a target from the edge of the pavement half way between dowel baskets). See Figure 1. If the +00 station falls on a basket, move the target location ahead halfway between the dowel baskets. A minimum of ten targets will be tested. If a target location falls on a bridge or in an approach section, it will be eliminated.
2. The transverse location of the targets will be randomly determined by the spreadsheet program. The random locations will be 4 feet from edge of pavement, left or right. For ease of measuring, plates may be placed 18 inches from the edge if there is no tie steel or a work bridge is not available.

3. The program will randomly determine which targets to measure. If a measurement location falls on a bridge or bridge approach pavement, it will be eliminated and the next closest target not in the original random selection will be used for measurement.
4. Shoulders. Divide the section into 800 foot long lots including both shoulders. Beginning with the first station at +00, locate a target every 400 feet, alternating between the inside and outside shoulder (or every 800 feet on one side). On 6 foot shoulders or wider, the targets should be 4 feet from the edge of the pavement. On 4 foot shoulders, the targets should be 3 feet from the edge of the pavement.

Figure1. Target Location



B. Target Location for Irregular Areas

1. All irregular areas of the same design thickness will be grouped together for determining the number of lots. The Engineer may waive sections of the same design thickness that total less than 5000 square yards.
2. Place targets randomly in all irregular areas larger than 100 square yards. One target will be randomly located in each selected irregular area. For irregular areas greater than 1000 square yards, randomly place a minimum of two targets. Targets must be placed at least 2 feet away from tie steel and 4 feet from dowel bars. A minimum of ten targets will be tested to represent each section of irregular areas. For projects with less than ten irregular areas larger than 100 square yards, select a minimum of three areas to place targets. All targets will be measured. If more than 20 targets are located in irregular areas, randomly select 50% to be tested.

C. Testing

Follow the manufacturer's instructions for operating the thickness gauge. It is important to avoid testing close to any steel including vehicles, equipment, steel toed shoes as well as tie bars, dowel bars and baskets, and manhole covers. When wearing steel toed shoes, always keep both toes at least 2 feet from the gauge during the test. Three total repeat readings will be taken. The readings should all be within 4 mm (0.15 in.) of each other.

D. Section Evaluation

1. Use the following formula to determine the mean thickness for the section:

$$\bar{X} = \frac{\sum X}{n}$$

Where: $\bar{X}$ = mean length for the section

$\sum X$ = sum of core lengths for the section

n = number of cores taken within the section

Round the mean thickness to two decimal places.

2. Use the following formula to determine the sample standard deviation of the thickness of the section:

$$S = \sqrt{\frac{\sum (X - \bar{X})^2}{n - 1}}$$

Where:

S = thickness standard deviation for the section.
 $\bar{X}$ = mean thickness for the section
 X = individual thickness values for the section.
 n = number of tests representing the section.

$\sum$ = sign indicating the sum of all values of $(X - \bar{X})^2$

Round the sample standard deviation to two decimal places.

NOTE: Calculations of the standard deviation are best made with an electronic calculator with standard deviation capability that uses the formula containing the quantity (n-1).

3. Use the following formula to determine the thickness index for the section of pavement thickness.

$$TI = (\bar{X} - S) - T$$

Where:

TI = thickness index for the section
 $\bar{X}$ = mean thickness length for the section
 T = design thickness, including subbase adjustment in [IM 346](#)
 S = measurement thickness standard deviation (of the sample) for the section

Round the thickness index to two decimal places.

NOTE: If the mean thickness minus the standard deviation is less than T of the section, the thickness index will be a negative number.

4. Basis of Payment. Payment for the quantities of pavement in square yards in each section will be as shown in [Article 2301.05](#) of the Standard Specifications and based on the thickness index as determined in accordance with these instructions.

E. Quality Assurance Testing

The Engineer will perform quality assurance testing by probing.

~~1. Probing – The Engineer may probe a minimum of one (1) test per seven (7) plates at random locations during paving operations in accordance with Materials IM 396. Plates may be moved to 18 inches from the edge of the pavement to allow easier testing.~~

1. ~~2.~~ The Engineer may utilize a MIT SCAN T2 or T3 gage, other than the one used by the contractor, to test a minimum of ten random locations.

2. ~~3.~~ The Engineer may also survey, to a minimum of 0.005 foot, on the plate prior to paving and on top of the pavement directly over the plate after placement to determine an accurate thickness verification.

F. Deficient Areas

1. If any measurement is deficient from T by 1 inch or more, the measurement should be rechecked to confirm the reading and the equipment. If the repeat measurement is also 1 inch or more below T, mark the location directly over the target. The Contractor shall drill a 4.0 inch diameter core at that location. If

the core length confirms the pavement is deficient by 1 inch or more, continue to drill cores as described below.

2. Deficient areas, represented by cores deficient in length by 1 inch or more from design thickness, are to be replaced. These areas will be determined by drilling a core 60 feet in each direction longitudinally at the same transverse location from the deficient core. Drilling will be continued at 60 feet intervals until a core is obtained which is not deficient by 1 inch or more from design thickness. Interpolate between this core and the adjacent core to determine the limits of the deficient area. This is the area to be removed and replaced at contractor's expense. These additional cores are to be used to define the deficient area and will not be used in the thickness index calculation. When an obstruction, such as a bridge, intersection, previous work, etc., prevents drilling a core at the required 60 feet interval in either direction longitudinally, continue the balance of the distance on the other side of the obstruction.
3. Any readings taken in the area for removal will be eliminated from the analysis for the entire section. A minimum of two plates will be placed on alternate sides prior to placement. After replacement, the contractor measure the thickness using the MIT SCAN to verify the thickness. The engineer will witness the measurement.

G. Final Pavement Thickness Measurement

1. Include all MIT SCAN measurements and probe measurements. The final pavement thickness will be determined by one of the following:
 - a. If all the probe measurements are within ± 0.25 inch of the MIT SCAN measurements, the MIT SCAN measurements will be considered validated. The Engineer will determine final thickness based on the average MIT SCAN measurements.
 - b. If at any one location, the probe measurements are greater than ± 0.25 inch difference from the MIT SCAN measurements, the contractor will core at the plate location and 2 feet away from the plate location. If the core at the plate location indicates that it has moved during placement, use the core thickness from the core taken 2 feet away as the pavement thickness. The Engineer will replace the MIT SCAN thickness at the location with the core thickness taken 2 feet away along with the average MIT SCAN measurements as final pavement thickness.
 - c. If all of the probe measurements are greater than ± 0.25 inch difference from the MIT SCAN measurements, the Engineer will randomly select a minimum of ten random locations, at 2 feet from the plate location, for coring by the contractor. The Engineer will use the average core thickness, tested in accordance with [IM 346](#), to determine final pavement thick