Illinois Department of Transportation

Memorandum

To: *

From: Rich Dotson

Subject: Special Provision Changes

Date: August 4, 2022

***The following special provsions have been revised for the following five lettings:

- January 21, 2022
- April 29, 2022
- June 17, 2022
- August 5, 2022
- September 23, 2022

Please revise your special provision books as indicated.

Recurring Special Provisions

Adopted January 1, 2022

Revised designer notes and numbering to match the 2022 Recurring Special Provision Book.

Interim Special Provisions (BDE)

ISP Number	Description
Alphabetic ISP Index (Revised)	Remove existing alphabetic index and insert revised index.
Numerical ISP Index (Revised)	Remove existing numberic index and insert revised index.
107.11 (Revised)	**"Railroad Protective Liability Insurance"** Both protective liability insurance specials were combined into 1. Still requires same information to be filled in and indicate if your railroad/railroads is a Class 1 or not.
107.19a (Revised)	**"Building Removal with Asbestos Abatement"** Formerly, "Building Removal – Case I (Friable and non friable Asbestos) Renamed and revised to cover all types of asbestos.
107.19b (Deleted)	**"Building Removal – Case II (Non-friable Asbestos)"**

***(Note: November 18, 2022 letting will handled independently for Special Provision Manual Changes.)

Interim Special Provisions (BDE)

ISP Number	Description
107.19c (Deleted)	**"Building Removal – Case III (Friable Asbestos)"** Deleted because information was combined into a new special.
107.19d (Revised)	**"Building Removal"** Formerly, "Building Removal – Case IV (No Asbestos)" Renamed to drop the "Case III". Use for building removal with no asbestos of any kind.
108.06 (Revised)	**"Training Special Provisions"** Updated because of the Illinois Works BDE Special provision.
108.06c (New)	**"Illinois Works Apprenticeship Initiative – State Funded Contracts"** New special only for state only funded jobs.
109.00a (Revised)	**"Steel Cost Adjustment"** Revised "mesh reinforcement" to "welded reinforcement."
303.00 (Revised)	**"Aggregate Subgrade Improvement"** Updated to the 2002 Standard Specifications.
403.00 (Revised)	**"Bituminous Surface Treatment with FOG Seal"** Revised to include A-2 and A-3 treatments and to change some nomenclature within.
405.50 (Revised)	**"Ultra-Thin Bonded Wearing Course"** Updated to match 2022 specifications book.
406.11 (Revised)	**"Surface Testing of Pavements – IRI"** Several updates to testing and corrective work procedures.
442.08 (New)	**"Hot-Mix Asphalt - Patching"** New special to address density requirements.
406.00f (Revised)	**"Material Transfer Device"** Removed fill-ins for mixes to be run through the MTD, but now the Mix Design Table in the General Notes should indicate which pay items get the MTD.
701.08 (Deleted)	**"Vehicle and Equipment Warning Lights"** No longer needed.
701.15 (Revised)	**"Speed Display Trailer"** Updated to the 2022 Specification Book.
780.14 (Revised)	**"Green Preformed Thermoplastic Pavement Markings"** Updated to the 2022 Spec Book.
644.00 (New-January 21, 2022) (Revised-April 29, 2022)	**'High Tension Cable Median Barrier"** Updated for reflector installation and changed number to 644.00 to match Spec Book.
821.00 (Revised)	**"Luminaires, LED"** Updated to the 2022 Spec Book.
632.00 (New	**"High Tension Cable Median Barrier Removal"** New special to cover requirements of the pay item not addressed in the 2022 Standard Specifications.

Interim Special Provisions (BDE)

ISP Number	Description
888.00 (Revised)	**"Accessible Pedestrian Signals (APS)"** Revised to meet new policy requirements.
1030.10 (Revised/Deleted) (January 21, 2022)	**"Hot-Mix Asphalt – Start of Production"** This special was revised then deleted when name changed to "Hot-Mix Asphalt".
1030.10 (New) (August 5, 2022)	**"Hot-Mix Asphalt"** Formerly, "Hot-Mix Asphalt – Start of Production" New special and addresses QC/QA overages and small tonnage and Department density verification test.
1032.05 (New) January 23, 2022	**"Performance Graded Asphalt Binder"** Allows additional modifiers in performance graded binders.
1032.05 (Deleted) April 29, 2022	**"Performance Graded Asphalt Binder"** Special included in the plans for the January 2022 letting. Deleted by Central Office via mass addendum due to "Industry" refusal to change.

The rest of the BDE changes are deletions so see the BDE check sheet for their new location. The attached BDE check list has them in alphabetical order.

District Special Provisions

105.01 (Revised)	**"Construction Layout Responsibility"** Removed reference to Recurring Special #10 because it was deleted.
105.02 (Revised)	**"Construction Layout Utilizing GPS Equipment"** Removed reference to Recurring Special #10 because it ws deleted.
105.07a (Revised)	**"Status of Utilities to be Adjusted"** Updated to 2022 Spec. Book.
108.02 (Delete)	**"Critical Path Work Schedule Requirement"** Construction felt it is no longer needed because of normal schedule requirements.
302.00 (Revised)	**"Soil Modification"** Corrected an incorrect Article reference.
406.06 (Delete)	**"Regenerative Air Sweeper"** Incorporated into HMA Surface Removal specials and no longer paid for separately.
420.05 (Delete)	**"Dowel Bar Assemblies"** Deleted because now in Spec. Book.
440.03a (Revised)	**"Hot-Mix Asphalt Surface Removal, _____ " (_____ MM)"** Revised to include Regenerative Air Sweeper.

District Special Provisions

440.03b (Revised)	**"Hot-Mix Asphalt Surface Removal, _____ " (_____ MM)"** Revised to include Regenerative Air Sweeper.
440.04 (Revised)	**"Hot-Mix Asphalt Joint Trimming"** Changed name and revised to cover SMART, 3P and all other overlays.
440.05 (Deleted)	**"Construction Sequence for Milling and Paving (SMART)"** Replaced with 440.04 to cover all types of overlays.
443.00 (Deleted)	**"Reflective Crack Control Treatment"** Now part of Spec. Book.
503.07 (New)	**"PCC Placement By Pump Requirements"** New special to address loss of air entrainment when pumping.
1004.00 (Revised)	**"PCC Slipform Paving Aggregate Optimization"** Updated to 2022 Spec. Book.
1004.02 (Revised)	**"PCC Superstructure Aggregate Optimization"** Updated to 2022 Spec. Book.
204.00 (Deleted)	**"Borrow and Furnished Excavation"** Now covered by Spec. Book Articles 205.04 and 1009.04.
205.05 (Deleted)	**"Embankment"** Now covered by Spec. Book Articles 205.06.
205.05a (Deleted)	**"Embankment (Small Embankment)"** Now covered by Spec. Book.
205.04 (Deleted & New)	**"Embankment (Restrictions)"** Updated to 2022 Spec.Book.
301.03 (Revised)	**"Subgrade Treatment"** Updated to 2022 Spec. Book.
1103.00 (Revised)	**"PCC QMP Electronic Report Submittals"** Updated and renamed from "PCC QC/QA Electronic Reports Submittal".
886.02 (New)	**"Miscellaneous Electrical Work"** New special to address having contractor work detector loop locations so they can be avoided when patching.
107.12 (Revised)	**"Requirements when Working with the Railroad"** Minor revisions.

General Notes

406.03 (Delete)	**"Pavement Station Numbers & Placement"** Deleted because it finally became a Recurring Special.
406.10 (Revised)	**"Hot-Mix Asphalt Mixture Requirements"** Revised to add a location to indicate use of a MTD on the Table.
201.00 (New)	**"Tree Removal Restriction"** New General Note to inform the contractor of limitations on tree removal dates.

RJD:tdp:S:\MGR2\WINWORD\Special Provisions\PL_Completed SP\Special Provisions Memo Changes.docx
Attachment(s)

cc: *	Hydraulics	Team 3	Team 7	Team 11	Local Roads (T. Sassine)
	T. Phillips	Team 4	Team8	Team 12	Materials (S. Worsfold)
	Team 1	Team 5	Team 9	Geometrics-13	Materials (D. Parish)
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Special Provisions Generated Checklist
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January 21, 2022 & March 11, 2022 Lettings
April 29, 2022 & June 17, 2022 Lettings
August 5, 2022 & September 23, 2022 Lettings

SPECIAL PROVISIONS CHECK LIST
Generated - 8/3/22 3:10 PM

Designer: _____ **Route:** _____
Contract No.: _____ **Section:** _____
Day Labor No. _____ **D.L. No.** _____
Lettings: January 21, 2022 **County:** _____
April 29, 2022 & June 17, 2022
August 5, 2022 & September 23, 2022

√	Dir	File Name	Spec Title	Spec Dates
	BRG\	APSLRP-1.docx	Approach Slab Repair	E 3/13/97
	DES\	00000.docx	STATE OF ILLINOIS	
	DES\	10500.docx	Construction Station Layout	E 7/30/10
	DES\	10501.docx	Construction Layout Responsibility	E 4/26/15 R 1/1/22
	DES\	10502.docx	Construction Layout Utilizing GPS Equipment	E 4/26/15 R 1/1/22
	DES\	10503.docx	Construction Layout Equipment	E 4/26/15 R 11/6/15
	DES\	10507.docx	Removal of Abandoned Underground Utilities	E 1/15/96 R 11/21/96
	DES\	10507a.docx	Status of Utilities/Utilities To Be Adjusted	E 1/21/05 R 1/1/22
	DES\	10507b.docx	Utilities - Locations/Information on Plans	E 11/8/13
	DES\	10712.docx	Requirements When Working with the Railroad	E 4/1/16 R 4/1/22
	DES\	10731.docx	Location of Underground State Maintained Facilities	E 8/3/07 R 7/31/09
	DES\	10732.docx	Right-of-Way Restrictions	E 7/1/94
	DES\	10805a.docx	Date of Completion	E 3/1/90 R 4/25/08
	DES\	10805b.docx	Date of Completion (Plus Working Days)	E 3/1/90 R 8/3/18
	DES\	20500.docx	Geotechnical Reinforcement	E 6/10/93 R 1/1/07
	DES\	20504.docx	Embankment (Restrictions)	E 1/21/05 R 8/5/22
	DES\	25000.docx	Seeding, Minor Areas	E 7/1/90 R 4/1/19
	DES\	25006a.docx	Mowing	E 12/11/01 R 8/2/13
	DES\	25006b.docx	Mowing	E 12/11/01 R 8/2/13
	DES\	25300b.docx	Seedlings	E 5/5/00 R 8/1/19
	DES\	28100.docx	Grout for Use With Riprap	E 7/30/10
	DES\	30101.docx	Proof Rolling	E 4/23/04 R 1/1/07
	DES\	30103.docx	Subgrade Treatment	E 7/1/90 R 1/1/22
	DES\	30200.docx	Soil Modification	E 7/1/90 R 1/1/22
	DES\	31100.docx	Rock Fill	E 10/15/95 R 4/26/13
	DES\	35300.docx	Sawcutting of PCC Base Course and Base Course Widening	E 1/1/16
	DES\	35500d.docx	Temporary Pavement	E 10/1/95 R 4/24/20
	DES\	35600.docx	Temporary Base Course Widening ___"	E 4/26/13 R 4/24/20
	DES\	40600.docx	Clean Existing Pavement Edge Joint	E 1/3/00 R 4/24/20
	DES\	40604a.docx	Hot-Mix Asphalt Surface Course Surface Tests	E 11/1/03 R 1/1/07
	DES\	40607.docx	Hot-Mix Asphalt -Tack Coat (Special) Options	E 8/1/19 R 11/8/19
	DES\	40713.docx	Grooved-In Rumble Strip	E 11/16/07 R 7/30/10
	DES\	42401.docx	Sidewalk Drains	E 3/1/91 R 1/1/07

SPECIAL PROVISIONS CHECK LIST
Generated - 8/3/22 3:10 PM

Designer: _____ **Route:** _____
Contract No.: _____ **Section:** _____
Day Labor No. _____ **D.L. No.** _____
Lettings: January 21, 2022 **County:** _____
April 29, 2022 & June 17, 2022
August 5, 2022 & September 23, 2022

	DES\	42402.docx	Temporary Sidewalks	E 3/1/91 R 2/1/96
	DES\	44000.docx	Partial Depth Patching	E 4/26/13 R 11/6/20
	DES\	44002.docx	Longitudinal Joint Repair	E 4/26/13 R 7/31/20
	DES\	44003.docx	Protection of Frames and Lids of Utility Structures	E 3/6/91 R 1/1/07
	DES\	44003a.docx	Hot-Mix Asphalt Surface Removal, **" (** mm)	E 3/1/93 R 1/1/22
	DES\	44003b.docx	Hot-Mix Asphalt Surface Removal, **" (** mm)	E 2/5/93 R 1/1/22
	DES\	44003d.docx	Pavement Drainage After Cold Milling	E 3/15/96 R 11/8/19
	DES\	44003e.docx	Pavement Patching with Hot-Mix Asphalt Surface Removal	E 3/1/97 R 1/1/07
	DES\	44004.docx	Hot-Mix Asphalt Joint Trimming	E 8/5/22
	DES\	48205.docx	Hot-Mix Asphalt Shoulder Resurfacing Required to be Constructed Simultaneously with Mainline Paving	E 4/23/10 R 8/4/17
	DES\	48206.docx	Hot-Mix Asphalt Shoulder Resurfacing Constructed Simultaneously with Mainline Paving	E 1/22/01 R 1/1/07
	DES\	50103.docx	Concrete Headwall Removal	E 7/1/90
	DES\	50104.docx	Concrete Handrail Removal	E 7/1/90 R 1/1/07
	DES\	50301.docx	Granular Backfill for Structures	E 8/4/17 R 11/6/20
	DES\	50302.docx	Surface Filler, Special (Gallon)	E 4/23/10 R 11/6/20
	DES\	50307.docx	PCC Placement by Pump Requirements	E 1/1/22
	DES\	50312.docx	Plug Existing Deck Drains	E 1/1/96 R 11/6/20
	DES\	50312a.docx	Floor Drain Extension	E 3/22/01 R 11/6/20
	DES\	50319.docx	Protective Coat, Special	E 4/23/10 R 11/6/20
	DES\	54200.docx	Seepage Collar	E 12/1/96
	DES\	54201.docx	Remove and Relay Pipe Culvert (Special)	E 7/1/90 R 11/6/20
	DES\	54202.docx	Pipe Culverts (Jacked)	E 1/1/14
	DES\	54204e.docx	Backfill - Pipe Culverts	E 10/15/95 R 1/1/07
	DES\	55000.docx	Storm Sewer, (Water Main Quality Pipe)	E 1/1/11 R 1/1/21
	DES\	55007.docx	Backfill, Building Removal	E 8/20/91 R 1/1/07
	DES\	55200.docx	Steel Pipe Culvert, Special (Jacked) * inches (* mm)	E 7/1/94 R 1/1/07
	DES\	55201.docx	(*Storm Sewer/Pipe Culvert) Jacked in Place, ** inches (** mm)	E 7/1/94 R 1/1/07
	DES\	56100.docx	Steel Casings * Inches	E 7/1/90 R 1/1/13
	DES\	56101.docx	Steel Casings * Inches	E 7/1/90 R 1/1/13
	DES\	59300.docx	Slope Wall Slurry Pumping	E 7/31/20
	DES\	60200a.docx	Inlets, Type G-1	E 10/1/95 R 1/1/07
	DES\	60200b.docx	Inlets, Type G-1, Special	E 10/1/95 R 1/1/07
	DES\	60200c.docx	Inlets, Type G-1, Double, Special	E 10/1/95 R 1/1/07

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	DES\	60200d.docx	Inlet Manhole, Type G-1, 4' (1.2 m) Diameter	E 10/1/95 R 1/1/07
	DES\	60200e.docx	Inlet-Manhole, Type G-1, 4' (1.2 m) Diameter, Special	E 10/1/95 R 1/1/07
	DES\	60200f.docx	Inlet-Manhole, Type G-1, 5' (1.5 m) Diameter	E 10/1/95 R 1/1/07
	DES\	60200g.docx	Inlet-Manhole, Type G-1, 5' (1.5 m) Diameter, Special	E 10/1/95 R 1/1/07
	DES\	60200h.docx	Inlet-Manhole, Type G-1, 5' (1.5 m) Diameter, Double, Special	E 10/1/95 R 1/1/07
	DES\	60200i.docx	Inlet-Manhole, Type G-1, 8' (2.4 m) Diameter, Double, Special	E 10/1/95 R 1/1/07
	DES\	60200j.docx	Manhole to be Adjusted with New Type G-1 Frame and Grate	E 10/1/95 R 1/1/07
	DES\	60200k.docx	Temporary Inlet Drainage Treatment	E 1/1/97
	DES\	60200l.docx	Inlets, Type G-2	E 11/1/03 R 1/1/07
	DES\	60200m.docx	Inlets, Type G-1, Double	E 7/31/09
	DES\	60200n.docx	Inlets, Type " * ", With Special Frame and Grate	E 8/2/13
	DES\	60200o.docx	Manhole, Type A, of the Diameter Specified with Special Frame and Grate	E 8/2/13
	DES\	60504.docx	Filling Existing Inlets	E 7/1/90 R 7/1/94
	DES\	60504a.docx	Filling Existing Culverts	E 10/15/95 R 4/1/17
	DES\	60504b.docx	Filling Drainage Structures	E 10/15/95 R 4/1/17
	DES\	60608.docx	Island Pavement Constructed on Existing Pavement	E 1/1/97 R 1/1/07
	DES\	60612.docx	Drainage Holes	E 7/1/90 R 1/1/07
	DES\	63001.docx	Guardrail Aggregate Erosion Control	E 2/1/93 R 1/1/07
	DES\	63111c.docx	Traffic Barrier Terminals	E 2/1/96 R 11/5/04
	DES\	63200.docx	Guard Post Removal	E 7/1/90 R 1/1/07
	DES\	63500.docx	Flexible Delineator Maintenance	E 5/5/92 R 1/1/94
	DES\	63501.docx	Flexible Delineators	E 10/1/95 R 1/1/07
	DES\	63502.docx	Recoverable Delineators	E 4/26/15 R 11/1/18
	DES\	66704.docx	Permanent Survey Marker, Type 1, Bridge Placement	E 7/1/90 R 3/11/11
	DES\	66802.docx	Permanent Survey Ties	E 4/1/91 R 4/27/12
	DES\	67005.docx	Equipment Vault for Nuclear Testing Equipment	E 6/24/93 R 11/8/19
	DES\	68000.docx	Railroad Track Removal	E 11/1/94 R 1/1/07
	DES\	68000a.docx	Railroad Ties Removal and Disposal	E 11/1/94 R 10/1/95
	DES\	68300.docx	Mortared Stone Wall	E 3/1/91 R 1/1/07
	DES\	70100.docx	Traffic Control Plan	E R
	DES\	70101.docx	Flaggers	E 8/3/18
	DES\	70108b.docx	Traffic Control and Protection Standard 701331 (Special)	E 10/15/95 R 7/31/09

SPECIAL PROVISIONS CHECK LIST
Generated - 8/3/22 3:10 PM

Designer: _____ **Route:** _____
Contract No.: _____ **Section:** _____
Day Labor No. _____ **D.L. No.** _____
Lettings: January 21, 2022 **County:** _____
April 29, 2022 & June 17, 2022
August 5, 2022 & September 23, 2022

	DES\	70114.docx	Width Restriction Signing	E 11/1/07 R 1/1/19
	DES\	70120.docx	Traffic Control and Protection BLR 21	E 4/25/08 R 4/24/20
	DES\	70121.docx	Traffic Control and Protection BLR 22	E 4/25/08 R 4/24/20
	DES\	70400.docx	Temporary Concrete Barrier, State Owned	E 5/1/91 R 4/1/19
	DES\	70400a.docx	Temporary Concrete Barrier Reflectors	E 1/21/05 R 11/6/20
	DES\	73300.docx	Re-Tightening Anchor Bolts for Cantilever Sign Structures	E 4/25/14
	DES\	81500.docx	Trench & Backfill, Special for Conduit Installation Beneath Bituminous Shoulders	E 3/21/94 R 11/6/20
	DES\	88600a.docx	Detector Loops, Type 1	E 3/1/96 R 11/6/20
	DES\	88601.docx	Adjust Existing Detector Loop Riser	E 11/7/14 R 11/6/20
	DES\	88602.docx	Miscellaneous Electrical Work	E 8/5/22
	DES\	100400.docx	PCC Slipform Paving Aggregate Optimization	E 8/3/12 R 1/1/22
	DES\	100402.docx	PCC Superstructure Aggregate Optimization	E 8/4/06 R 1/1/22
	DES\	100403b.docx	Coarse Aggregate for Bituminous Courses, Class A	E 6/29/93 R 1/1/07
	DES\	100404.docx	Aggregate Quality	E 7/1/90 R 4/26/13
	DES\	102013.docx	Membrane Curing Method	E 7/29/16 R 11/17/17
	DES\	110300.docx	PCC QMP Electronic Report Submittals	E 1/13/22
	DES\	110303.docx	PCC Automatic Batching Equipment	E 4/23/10 R 11/7/14

BDE Special Provisions Checklist

January 21, 2022 & March 11, 2022 Lettings
April 29, 2022 & June 17, 2022 Lettings
August 5, 2022 & September 23, 2022 Lettings

BDE SPECIAL PROVISIONS
For the January 21, 2022 and March 11, 2022 Lettings

The following special provisions indicated by a "check mark" are applicable to this contract and will be included by the Project Coordination and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

File Name	#		Special Provision Title	Effective	Revised
* 80099	1	☐	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
80274	2	☐	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192	3	☐	Automated Flagger Assistance Device	Jan. 1, 2008	
80173	4	☐	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
* 80426	5	☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
80436	6	☐	Blended Finely Divided Minerals	April 1, 2021	
80241	7	☐	Bridge Demolition Debris	July 1, 2009	
5026I	8	☐	Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5048I	9	☐	Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5049I	10	☐	Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5053I	11	☐	Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80384	12	☒	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198	13	☐	Completion Date (via calendar days)	April 1, 2008	
80199	14	☐	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293	15	☐	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311	16	☐	Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80261	17	☐	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80434	18	☐	Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
80029	19	☒	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	March 2, 2019
80229	20	☐	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
* 80433	21	☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
* 80422	22	☐	High Tension Cable Median Barrier	Jan. 1, 2020	Jan. 1, 2022
* 80442	23	☐	Hot-Mix Asphalt – Start of Production	Jan. 1, 2022	
* 80438	24	☐	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	Sept. 2, 2021
* 80411	25	☐	Luminaires, LED	April 1, 2019	Jan. 1, 2022
* 80045	26	☐	Material Transfer Device	June 15, 1999	Jan. 1, 2022
80418	27	☐	Mechanically Stabilized Earth Retaining Walls	Nov. 1, 2019	Nov. 1, 2020
* 80441	28	☐	Performance Graded Asphalt Binder	Jan. 1, 2022	
80430	29	☐	Portland Cement Concrete – Haul Time	July 1, 2020	
* 3426I	30	☐	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
80395	31	☐	Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
* 80340	32	☐	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
* 80127	33	☐	Steel Cost Adjustment	April 2, 2004	Jan. 1, 2022
80397	34	☒	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	35	☒	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80437	36	☐	Submission of Payroll Records	April 1, 2021	
* 80435	37	☐	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2022
80410	38	☐	Traffic Spotters	Jan. 1, 2019	
* 20338	39	☐	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
80318	40	☐	Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
* 80429	41	☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
80439	42	☒	Vehicle and Equipment Warning Lights	Nov. 1, 2021	
80440	43	☐	Waterproofing Membrane System	Nov. 1, 2021	
80302	44	☒	Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
80427	45	☒	Work Zone Traffic Control Devices	Mar. 2, 2020	
80071	46	☐	Working Days	Jan. 1, 2002	

The following special provisions are in the 2022 Standard Specifications and Recurring Special Provisions.

File Name	Special Provision Title	New Location(s)	Effective	Revised
80425	Cape Seal	Sections 405, 1003	Jan. 1, 2020	Jan. 1, 2021
80387	Contrast Preformed Plastic Pavement Marking	Articles 780.08, 1095.03	Nov. 1, 2017	
80402	Disposal Fees	Article 109.04(b)	Nov. 1, 2018	
80378	Dowel Bar Inserter	Articles 420.03, 420.05, 1103.20	Jan. 1, 2017	Jan. 1, 2018
80421	Electric Service Installation	Articles 804.04, 804.05	Jan. 1, 2020	
80415	Emulsified Asphalts	Article 1032.06	Aug. 1, 2019	
80423	Engineer's Field Office and Laboratory	Section 670	Jan. 1, 2020	
80417	Geotechnical Fabric for Pipe Underdrains and French Drains	Articles 1080.01(a), 1080.05	Nov. 1, 2019	
80420	Geotextile Retaining Walls	Article 1080.06(d)	Nov. 1, 2019	
80304	Grooving for Recessed Pavement Markings	Articles 780.05, 780.14, 780.15	Nov. 1, 2012	Nov. 1, 2020
80416	Hot-Mix Asphalt – Binder and Surface Course	Sections 406, 1003, 1004, 1030, 1101	July 2, 2019	Nov. 1, 2019
80398	Hot-Mix Asphalt – Longitudinal Joint Sealant	Sections 406, 1032	Aug. 1, 2018	Nov. 1, 2019
80406	Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT)	Sections 406, 1030	Jan. 1, 2019	Jan. 2, 2021
80347	Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Sections 406, 1030	Nov. 1, 2014	July 2, 2019
80383	Hot-Mix Asphalt – Quality Control for Performance	Sections 406, 1030	April 1, 2017	July 2, 2019
80393	Manholes, Valve Vaults, and Flat Slab Tops	Articles 602.02, 1042.10	Jan. 1, 2018	Mar. 1, 2019
80424	Micro-Surfacing and Slurry Sealing	Sections 404, 1003	Jan. 1, 2020	Jan. 1, 2021
80428	Mobilization	Article 671.02	April 1, 2020	
80412	Obstruction Warning Luminaires, LED	Sections 801, 822, 1067	Aug. 1, 2019	
80359	Portland Cement Concrete Bridge Deck Curing	Articles 1020.13, 1022.03	April 1, 2015	Nov. 1, 2019
80431	Portland Cement Concrete Pavement Patching	Articles 701.17(e)(3)b, 1001.01(d), 1020.05(b)(5)	July 1, 2020	
80432	Portland Cement Concrete Pavement Placement	Article 420.07	July 1, 2020	
80300	Preformed Plastic Pavement Marking Type D - Inlaid	Articles 780.08, 1095.03	April 1, 2012	April 1, 2016
80157	Railroad Protective Liability Insurance (5 and 10)	Article 107.11	Jan. 1, 2006	
80306	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Section 1031	Nov. 1, 2012	Jan. 2, 2021
80407	Removal and Disposal of Regulated Substances	Section 669	Jan. 1 2019	Jan. 1, 2020
80419	Silt Fence, Inlet Filters, Ground Stabilization and Riprap Filter Fabric	Articles 280.02, 280.04, 1080.02, 1080.03, 1081.15	Nov. 1, 2019	July 1, 2021
80408	Steel Plate Beam Guardrail Manufacturing	Article 1006.25	Jan. 1, 2019	
80413	Structural Timber	Article 1007.03	Aug. 1, 2019	
80298	Temporary Pavement Marking	Section 703, Article 1095.06	April 1, 2012	April 1, 2017
80409	Traffic Control Devices – Cones	Article 701.15(a), 1106.02(b)	Jan. 1, 2019	
80288	Warm Mix Asphalt	Sections 406, 1030, 1102	Jan. 1, 2012	April 1, 2016
80414	Wood Fence Sight Screen	Article 641.02	Aug. 1, 2019	April 1, 2020

The following special provisions require additional information from the designer. The additional information needs to be submitted as a separate document. The Project Coordination and Implementation section will then include the information in the applicable special provision.

- Bridge Demolition Debris
- Building Removal - Case I
- Building Removal – Case II
- Building Removal - Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

BDE SPECIAL PROVISIONS
For the April 29, 2022 and June 17, 2022 Lettings

The following special provisions indicated by a "check mark" are applicable to this contract and will be included by the Project Coordination and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

File Name	#		Special Provision Title	Effective	Revised
80099	1	☐	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
* 80274	2	☐	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
80192	3	☐	Automated Flagger Assistance Device	Jan. 1, 2008	
80173	4	☐	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80426	5	☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
80436	6	☐	Blended Finely Divided Minerals	April 1, 2021	
80241	7	☐	Bridge Demolition Debris	July 1, 2009	
5026I	8	☐	Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5048I	9	☐	Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5049I	10	☐	Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5053I	11	☐	Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80384	12	☐	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198	13	☐	Completion Date (via calendar days)	April 1, 2008	
80199	14	☐	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293	15	☐	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311	16	☐	Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80261	17	☐	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80434	18	☐	Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
80029	19	☐	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	March 2, 2019
80229	20	☐	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80433	21	☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
80422	22	☐	High Tension Cable Median Barrier	Jan. 1, 2020	Jan. 1, 2022
* 80443	23	☐	High Tension Cable Median Barrier Removal	April 1, 2022	
* 80444	24	☐	Hot-Mix Asphalt – Patching	April 1, 2022	
80442	25	☐	Hot-Mix Asphalt – Start of Production	Jan. 1, 2022	
80438	26	☐	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	Sept. 2, 2021
80411	27	☐	Luminaires, LED	April 1, 2019	Jan. 1, 2022
80045	28	☐	Material Transfer Device	June 15, 1999	Jan. 1, 2022
80418	29	☐	Mechanically Stabilized Earth Retaining Walls	Nov. 1, 2019	Nov. 1, 2020
80430	30	☐	Portland Cement Concrete – Haul Time	July 1, 2020	
3426I	31	☐	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
80395	32	☐	Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340	33	☐	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
80127	34	☐	Steel Cost Adjustment	April 2, 2004	Jan. 1, 2022
80397	35	☐	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	36	☐	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80437	37	☐	Submission of Payroll Records	April 1, 2021	
80435	38	☐	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2022
80410	39	☐	Traffic Spotters	Jan. 1, 2019	
20338	40	☐	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
80318	41	☐	Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
80429	42	☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
80439	43	☐	Vehicle and Equipment Warning Lights	Nov. 1, 2021	
80440	44	☐	Waterproofing Membrane System	Nov. 1, 2021	
80302	45	☐	Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
80427	46	☐	Work Zone Traffic Control Devices	Mar. 2, 2020	
80071	47	☐	Working Days	Jan. 1, 2002	

The following special provisions are in the 2022 Standard Specifications and Recurring Special Provisions.

File Name	Special Provision Title	New Location(s)	Effective	Revised
80425	Cape Seal	Sections 405, 1003	Jan. 1, 2020	Jan. 1, 2021
80437	Contrast Preformed Plastic Pavement Marking	Articles 780.08, 1095.03	Nov. 1, 2017	
80402	Disposal Fees	Article 109.04(b)	Nov. 1, 2018	
80378	Dowel Bar Inserter	Articles 420.03, 420.05, 1103.20	Jan. 1, 2017	Jan. 1, 2018
80421	Electric Service Installation	Articles 804.04, 804.05	Jan. 1, 2020	
80415	Emulsified Asphalts	Article 1032.06	Aug. 1, 2019	
80423	Engineer's Field Office and Laboratory	Section 670	Jan. 1, 2020	
80417	Geotechnical Fabric for Pipe Underdrains and French Drains	Articles 1080.01(a), 1080.05	Nov. 1, 2019	
80420	Geotextile Retaining Walls	Article 1080.06(d)	Nov. 1, 2019	
80304	Grooving for Recessed Pavement Markings	Articles 780.05, 780.14, 780.15	Nov. 1, 2012	Nov. 1, 2020
80416	Hot-Mix Asphalt – Binder and Surface Course	Sections 406, 1003, 1004, 1030, 1101	July 2, 2019	Nov. 1, 2019
80398	Hot-Mix Asphalt – Longitudinal Joint Sealant	Sections 406, 1032	Aug. 1, 2018	Nov. 1, 2019
80406	Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT)	Sections 406, 1030	Jan. 1, 2019	Jan. 2, 2021
80347	Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Sections 406, 1030	Nov. 1, 2014	July 2, 2019
80383	Hot-Mix Asphalt – Quality Control for Performance	Sections 406, 1030	April 1, 2017	July 2, 2019
80393	Manholes, Valve Vaults, and Flat Slab Tops	Articles 602.02, 1042.10	Jan. 1, 2018	Mar. 1, 2019
80424	Micro-Surfacing and Slurry Sealing	Sections 404, 1003	Jan. 1, 2020	Jan. 1, 2021
80428	Mobilization	Article 671.02	April 1, 2020	
80412	Obstruction Warning Luminaires, LED	Sections 801, 822, 1067	Aug. 1, 2019	
80359	Portland Cement Concrete Bridge Deck Curing	Articles 1020.13, 1022.03	April 1, 2015	Nov. 1, 2019
80431	Portland Cement Concrete Pavement Patching	Articles 701.17(e)(3)b, 1001.01(d), 1020.05(b)(5)	July 1, 2020	
80432	Portland Cement Concrete Pavement Placement	Article 420.07	July 1, 2020	
80300	Preformed Plastic Pavement Marking Type D - Inlaid	Articles 780.08, 1095.03	April 1, 2012	April 1, 2016
80157	Railroad Protective Liability Insurance (5 and 10)	Article 107.11	Jan. 1, 2006	
80306	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Section 1031	Nov. 1, 2012	Jan. 2, 2021
80407	Removal and Disposal of Regulated Substances	Section 669	Jan. 1 2019	Jan. 1, 2020
80419	Silt Fence, Inlet Filters, Ground Stabilization and Riprap Filter Fabric	Articles 280.02, 280.04, 1080.02, 1080.03, 1081.15	Nov. 1, 2019	July 1, 2021
80408	Steel Plate Beam Guardrail Manufacturing	Article 1006.25	Jan. 1, 2019	
80413	Structural Timber	Article 1007.03	Aug. 1, 2019	
80298	Temporary Pavement Marking	Section 703, Article 1095.06	April 1, 2012	April 1, 2017
80409	Traffic Control Devices – Cones	Article 701.15(a), 1106.02(b)	Jan. 1, 2019	
80288	Warm Mix Asphalt	Sections 406, 1030, 1102	Jan. 1, 2012	April 1, 2016
80414	Wood Fence Sight Screen	Article 641.02	Aug. 1, 2019	April 1, 2020

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- Building Removal – Case II
- Building Removal - Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

BDE SPECIAL PROVISIONS
For the August 5, 2022 and September 23, 2022 Lettings

The following special provisions indicated by a "check mark" are applicable to this contract and will be included by the Project Coordination and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

File Name	#		Special Provision Title	Effective	Revised
80099	1	☐	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
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80192	3	☐	Automated Flagger Assistance Device	Jan. 1, 2008	
80173	4	☐	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80426	5	☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
80436	6	☐	Blended Finely Divided Minerals	April 1, 2021	
80241	7	☐	Bridge Demolition Debris	July 1, 2009	
* 5053I	8	☐	Building Removal	Sept. 1, 1990	Aug. 1, 2022
* 5026I	9	☐	Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
80384	10	☒	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198	11	☐	Completion Date (via calendar days)	April 1, 2008	
80199	12	☐	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293	13	☐	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311	14	☐	Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80261	15	☐	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80434	16	☐	Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
80029	17	☒	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	March 2, 2019
80229	18	☐	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80433	19	☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
80422	20	☐	High Tension Cable Median Barrier	Jan. 1, 2020	Jan. 1, 2022
80443	21	☐	High Tension Cable Median Barrier Removal	April 1, 2022	
* 80442	22	☐	Hot-Mix Asphalt	Jan. 1, 2022	Aug. 1, 2022
80444	23	☐	Hot-Mix Asphalt - Patching	April 1, 2022	
80438	24	☐	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	Sept. 2, 2021
80411	25	☐	Luminaires, LED	April 1, 2019	Jan. 1, 2022
80045	26	☐	Material Transfer Device	June 15, 1999	Jan. 1, 2022
80418	27	☐	Mechanically Stabilized Earth Retaining Walls	Nov. 1, 2019	Nov. 1, 2020
80430	28	☐	Portland Cement Concrete – Haul Time	July 1, 2020	
3426I	29	☐	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
80395	30	☐	Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340	31	☐	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
80127	32	☐	Steel Cost Adjustment	April 2, 2004	Jan. 1, 2022
80397	33	☐	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	34	☒	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80437	35	☒	Submission of Payroll Records	April 1, 2021	
80435	36	☐	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2022
80410	37	☐	Traffic Spotters	Jan. 1, 2019	
20338	38	☐	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
80318	39	☐	Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
80429	40	☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
80440	41	☐	Waterproofing Membrane System	Nov. 1, 2021	
80302	42	☒	Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
80427	43	☒	Work Zone Traffic Control Devices	Mar. 2, 2020	
80071	44	☐	Working Days	Jan. 1, 2002	

The following special provisions have been deleted from use.

File Name	Special Provision Title	Effective	Revised
5048I	Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5049I	Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
80439	Vehicle and Equipment Warning Lights	Nov. 1, 2021	

The following special provisions are in the 2022 Standard Specifications and Recurring Special Provisions.

File Name	Special Provision Title	New Location(s)	Effective	Revised
80425	Cape Seal	Sections 405, 1003	Jan. 1, 2020	Jan. 1, 2021
80387	Contrast Preformed Plastic Pavement Marking	Articles 780.08, 1095.03	Nov. 1, 2017	
80402	Disposal Fees	Article 109.04(b)	Nov. 1, 2018	
80378	Dowel Bar Inserter	Articles 420.03, 420.05, 1103.20	Jan. 1, 2017	Jan. 1, 2018
80421	Electric Service Installation	Articles 804.04, 804.05	Jan. 1, 2020	
80415	Emulsified Asphalts	Article 1032.06	Aug. 1, 2019	
80423	Engineer's Field Office and Laboratory	Section 670	Jan. 1, 2020	
80417	Geotechnical Fabric for Pipe Underdrains and French Drains	Articles 1080.01(a), 1080.05	Nov. 1, 2019	
80420	Geotextile Retaining Walls	Article 1080.06(d)	Nov. 1, 2019	
80304	Grooving for Recessed Pavement Markings	Articles 780.05, 780.14, 780.15	Nov. 1, 2012	Nov. 1, 2020
80416	Hot-Mix Asphalt – Binder and Surface Course	Sections 406, 1003, 1004, 1030, 1101	July 2, 2019	Nov. 1, 2019
80398	Hot-Mix Asphalt – Longitudinal Joint Sealant	Sections 406, 1032	Aug. 1, 2018	Nov. 1, 2019
80406	Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT)	Sections 406, 1030	Jan. 1, 2019	Jan. 2, 2021
80347	Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Sections 406, 1030	Nov. 1, 2014	July 2, 2019
80383	Hot-Mix Asphalt – Quality Control for Performance	Sections 406, 1030	April 1, 2017	July 2, 2019
80393	Manholes, Valve Vaults, and Flat Slab Tops	Articles 602.02, 1042.10	Jan. 1, 2018	Mar. 1, 2019
80424	Micro-Surfacing and Slurry Sealing	Sections 404, 1003	Jan. 1, 2020	Jan. 1, 2021
80428	Mobilization	Article 671.02	April 1, 2020	
80412	Obstruction Warning Luminaires, LED	Sections 801, 822, 1067	Aug. 1, 2019	
80359	Portland Cement Concrete Bridge Deck Curing	Articles 1020.13, 1022.03	April 1, 2015	Nov. 1, 2019
80431	Portland Cement Concrete Pavement Patching	Articles 701.17(e)(3)b, 1001.01(d), 1020.05(b)(5)	July 1, 2020	
80432	Portland Cement Concrete Pavement Placement	Article 420.07	July 1, 2020	
80300	Preformed Plastic Pavement Marking Type D - Inlaid	Articles 780.08, 1095.03	April 1, 2012	April 1, 2016
80157	Railroad Protective Liability Insurance (5 and 10)	Article 107.11	Jan. 1, 2006	
80306	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Section 1031	Nov. 1, 2012	Jan. 2, 2021
80407	Removal and Disposal of Regulated Substances	Section 669	Jan. 1 2019	Jan. 1, 2020
80419	Silt Fence, Inlet Filters, Ground Stabilization and Riprap Filter Fabric	Articles 280.02, 280.04, 1080.02, 1080.03, 1081.15	Nov. 1, 2019	July 1, 2021
80408	Steel Plate Beam Guardrail Manufacturing	Article 1006.25	Jan. 1, 2019	
80413	Structural Timber	Article 1007.03	Aug. 1, 2019	
80298	Temporary Pavement Marking	Section 703, Article 1095.06	April 1, 2012	April 1, 2017
80409	Traffic Control Devices – Cones	Article 701.15(a), 1106.02(b)	Jan. 1, 2019	
80288	Warm Mix Asphalt	Sections 406, 1030, 1102	Jan. 1, 2012	April 1, 2016
80414	Wood Fence Sight Screen	Article 641.02	Aug. 1, 2019	April 1, 2020

The following special provisions require additional information from the designer. The additional information needs to be submitted as a separate document. The Project Coordination and Implementation section will then include the information in the applicable special provision.

- Bridge Demolition Debris
- Building Removal
- Building Removal with Asbestos Abatement
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

First Page
&
Index for
Supplemental Specifications
and
Recurring Special Provisions

[*Current Letting(s)

Contract No. _____ Route(s): _____

SLT No. SLT-94-_____ D.L. No.: _____)

Designer: _____ Section(s): _____

Lettings: January 21, 2022 or March 11, 2022 County(ies): _____
April 29, 2022 or June 17, 2022; and August 5, 2022 or September 23, 2022 Lettings

(circle correct letting)

STATE OF ILLINOIS

SPECIAL PROVISIONS

Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted April 1, 2016, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein, and the "Recommended Standards for Water Works", (Ten State Standards), latest edition, which apply to and govern the construction of

_____

_____

_____

and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT

DESCRIPTION OF PROJECT

Contract No. _____ Route(s): _____

SLT No. SLT-94- _____ D.L. No.: _____)

Designer: _____ Section(s): _____

Lettings: January 21, 2022 or March 11, 2022 County(ies): _____
April 29, 2022 or June 17, 2022; and August 5, 2022 or September 23, 2022 Lettings

(circle correct letting)

LOCATION OF PROJECT *(CONTINUED)*

Designer Notes
Recurring Special Provisions

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2022

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS and frequently used RECURRING SPECIAL PROVISIONS.

No ERRATA this year.

SUPPLEMENTAL SPECIFICATIONS

Std. Spec. Sec.		Page No.

No Supplemental Specifications this year.

√ RJD

RECURRING SPECIAL PROVISIONS

The following RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

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2	Subletting of Contracts (Federal-Aid Contracts)	4
3	EEO	5
4	Specific EEO Responsibilities Non Federal-Aid Contracts	15
5	Required Provisions - State Contracts	20
6	Asbestos Bearing Pad Removal	26
7	Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal	27
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9	Construction Layout Stakes	29
10	Use of Geotextile Fabric for Railroad Crossing	32
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15	Polymer Concrete	43
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21	Calcium Chloride Accelerator for Portland Cement Concrete	52
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24	Digital Terrain Modeling for Earthwork Calculations	77
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29	Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	93
30	Longitudinal Joint and Crack Patching	96
31	Concrete Mix Design – Department Provided	98
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FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

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Designer Notes for January 1, 2022 Recurring Special Provisions
(January 21, 2022 & March 11, 2022 Lettings
April 29, 2022 & June 17, 2022 Lettings
August 5, 2022 & September 23, 2022 Lettings)

1. Designer Note: This check sheet is required in all contracts that involve Federal funds.

2. Designer Note: This check sheet is required in all Federal contracts.

3. Designer Note: This check sheet is required in all contracts.

4. Designer Note: This check sheet is required in all contracts involving State funds only.

5. Designer Note: This check sheet is required in all contracts involving State funds only.

6. Designer Note: Include in all contracts where Asbestos Bearing Pad Removal is part of the structure work.

7. Designer Note: Include in all contracts where the existing bridge deck HMA surface is to be removed and the waterproofing membrane contains asbestos and will be removed. The designer must have in the project files a completed "Asbestos Determination Certificate" for every bridge within the project limits. The District Bridge Maintenance Engineer and/or the District Hydraulics Engineer can provide copies of these certificates. If your project has any bridge deck containing asbestos, insert this special provision as well as the General Notes entitled, "Asbestos Bridge Wearing Surface Removal".

8. Designer Note: This check sheet will be required for those contracts that will involve Contractor work on haul road stream crossings, other temporary stream crossings, and in stream work pads. Contracts that would generally involve this type of work would be bridges/structures, new or rebuilt, and contracts involving earth excavation, embankment or borrow excavation. Discuss these types of work operations and any other stream related work with your Project Engineer. Any in-stream crossing or other work will require an individual 404 Permit from the Corps of Engineers. Be sure to let the Hydraulics Engineer know as soon as possible that a Corps permit will be needed. The permit has a lead-time and is required for the project to proceed to letting.

9. Designer Note: Depending on IDOT manpower needs, this check sheet will be included as a pay item when the Contractor will be required to do all contract staking, including bridges. This check sheet should be used for a large box culvert or a multi pipe that will require a structure number. This would be a structure that will have a span length along survey line of more than 6 meters (20 feet).

   Discuss this check sheet with the Bureau of Project Implementation (Construction) as to what manpower sources are available.

10. Designer Note: This special provision specifies the requirements for geotextile fabric for use on railroad crossings.

    Include only on projects where the railroad crossing is a contract pay item. Also may be required for temporary crossings.

    Railroad crossings are generally (99%) handled by the Railroad through an agreement and not part of our contract. If in doubt as to how to handle, discuss with Project Support.

11. Designer Note: Use this check sheet where existing pavement is being reconstructed and voids are evident under the existing pavement that can be filled by grouting. Discuss with Maintenance Field Engineer responsible for the area.

    NOTE: A detail of the slab movement detection device is included in CADD and this drawing must be included in your contract plans.

12. Designer Note: This check sheet will be required on a contract where cold milling is required but where the cold milled area will not be overlaid. Include CADD Standard 440001 in your plans. If your contract is to be cold milled and the area overlaid, you should use one of the two District special provisions on this subject, **not** this check sheet.

13. Designer Note: This check sheet requires that once a lift of bituminous resurfacing is placed on a lane of pavement, any adjoining bituminous shoulder shall be resurfaced with an equal thickness before any other lane is resurfaced for each lift of resurfacing. Insert this special on resurfacing projects which meet the following criteria: All four lane interstates and freeways, all four lane expressways, four lane highways with ADT > 25,000 or peak one-way VPH > 1,700, two lane highways with ADT > 10,000 or peak one-way VPH > 800.

14. Designer Note: Intended to remove thick bituminous overlay so that the original pavement can be examined and then patched, if necessary. It also further defines specific pay items for work involved.

15. Designer Note: This check sheet was developed by Materials and Physical Research as an alternate to replacing Preformed Joint Sealer and Neoprene Expansion Joints up to 65 mm (2½" inches). Include with any projects that have "POLYMER CONCRETE" as a pay item.

16. Designer Note: This rehabilitation process can be used in a variety of gravity applications such as trenchless rehabilitation of sanitary sewers, storm sewers, and process piping. Insert this special provision if trenchless repair of the items listed above is selected. Prior to selection consult your Project Engineer. Additional information such as size of pipe to be lined, number of laterals, and manhole treatment may be necessary.

17. Designer Note: This check sheet was developed to obtain the desired pipe coating on bike racks. Use on all projects with bike racks.

18. Designer Note: This special provision is for use on bridge contracts where staging is required, and the District wants the Contractor to have an option to post-mounting the temporary bridge and traffic signals. Discuss use with the District Traffic Control Technician.

19. Designer Note: This check sheet should be included for all projects containing roadway lighting. The designer should also include CADD Standard 701301-D4 in the plans.

20. Designer Note: This check sheet was developed to address difficulties with obtaining metric sized bolts. Include in all metric projects, which contain or could contain any type of bolted connection.

21. Designer Note: This special provision not to be used in District Four. Not recommended for use on recently constructed pavements or bridge decks. This is not recommended when there is steel in the patches due to the corrosion the calcium chloride causes.

22. Designer Note: Do not use Check Sheet #22 unless requested by Materials.

23. Designer Note: Use in all contracts involving cast-in-place concrete.

24. Designer Note: This special allows the use of digital terrain modeling for field measurements of earthwork. This is to be used at the district's discretion. Discuss it with your Project Engineer and Construction.

25. Designer Note: Do not use. This has been replaced by BDE special.

26. Designer Note: Insert into preventative maintenance contracts using cape seals or bituminous surface treatments.

27. Design Note: Insert into contracts using high-density expanding polyurethane foam or restoring the elevation of settled bridge approach pavements.

28. Designer Note: Insert into contracts using PCC inlays or overlays. Use in accordance with Chapter 53 of the *BDE Manual*.

29. Designer Note: Use on resurfacing projects to address areas which need repair, but do not warrant full depth repair. Joints and cracks, which exhibit environmental distresses, such as, spalling and "D" cracking or contains maintenance patching, are eligible for using this method of repair. Joints and cracks which exhibit load related stresses, such as pumping, alligator cracking, corner breaks, compression failures, subgrade failures, or punch-outs should not use this method on repair. Discuss use with your Project Engineer.

30. Designer Note: Consider using on contracts with longitudinal partial depth patching. There is a District Special Provision (Longitudinal Joint Repair, 440.02) that D4 prefers to use because it has different requirements. If using the BDE version and you cannot allow the milled trench to be left open overnight, specify the holes shall be filled every night.

31. Designer Note: Insert in projects with cast-in-place concrete. It is an interim measure to allow districts to transition from department mix designs to contractor mix designs.

32. Design Note: Use on all HMA overlay, Full-Dept HMA paving, and PCC pavement projects in District 4.

BDE Special Provisions

Numeric Index

REVISED INDEX

NUMERIC DESIGN INTERIM SPECIAL PROVISIONS (ISP's)

Get a copy of the current check list from the Program Development Secretary, indicate which ISP's are to be included in your set of special provisions, fill in any blanks as indicated on the check list, and include with your set of special provisions to be sent to Springfield where they will be inserted.

Standard Spec. No.	PC No.	Item
107.01	10701	Construction Air Quality – Diesel Retrofit
107.11a	10711a	Railroad Protective Liability Insurance
107.19a	10719a	Building Removal with Asbestos Abatement
107.19d	10719d	Building Removal
107.38	10738	Bridge Demolition Debris
107.40	10740	Compensable Delay Costs
108.05	10805	Working Days
108.05a	10805a	Completion Date (Via Calendar Days)
108.05b	10805b	Completion Date (Via Calendar Days) Plus Working Days
108.06	10806	Training Special Provision
108.06a	10806a	Disadvantaged Business Enterprise Participation
108.06b	10806b	Weekly DBE Trucking Reports
108.06c	10806c	Illinois Works Apprenticeship Initiative – State Funded Contracts
109.00a	10900a	Steel Cost Adjustment
109.01	10901	Bituminous Materials Cost Adjustments
109.03	10903	Fuel Cost Adjustment
109.13	10913	Submission of Payroll Records
109.14	10914	Subcontractor and DBE Payment Reporting
109.12	10912	Subcontractor Mobilization Payments
303.00	30300	Aggregate Subgrade Improvement

NUMERIC DESIGN INTERIM SPECIAL PROVISIONS (ISP's)

Standard Spec. No.	PC No.	Item
403.00	40300	Bituminous Surface Treatment with Fog Seal
405.50	40550	Ultra-Thin Bonded Wearing Course
406.00f	40600f	Material Transfer Device
406.11	40611	Surface Testing of Pavements - IRI
442.08	44208	Hot-Mix Asphalt – Patching
504.00	50400	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet
542.00	54200	Concrete End Sections for Pipe Culverts
542.01	54201	Traversable Pipe Grate for Concrete End Sections
542.02	54202	Sloped Metal End Section for Pipe Culverts
542.03	54203	Corrugated Plastic Pipe (Culvert and Storm Sewer)
632.00	63200	High Tension Cable Median Barrier Removal
644.00	64400	High Tension Cable Median Barrier
701.00	70100	Automated Flagger Assistance Devices
701.03	70103	Work Zone Traffic Control Devices
701.13	70113	Traffic Spotters
701.15	70115	Speed Display Trailer
780.14	78014	Green Preformed Thermoplastic Pavement Markings
821.00	82100	Luminaires, LED
888.00	88800	Accessible Pedestrian Signals (APS)
1003.07	100307	Mechanically Stabilized Earth Retaining Walls
1010.01	101001	Blended Finely Divided Minerals
1020.11	102011	Portland Cement Concrete – Haul Time
1030.10	103010	Hot-Mix Asphalt
1061.05	106105	Waterproofing Membrane System

BDE Special Provisions

Alphabetic Index

REVISED INDEX

ALPHABETIC LIST OF DESIGN INTERIM SPECIAL PROVISIONS (ISP's)

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Standard Spec. No.	PC No.	Item
888.00	88800	Accessible Pedestrian Signals (APS)
303.00	30300	Aggregate Subgrade Improvement
701.00	70100	Automated Flagger Assistance Devices
109.01	10901	Bituminous Materials Cost Adjustment
403.00	40300	Bituminous Surface Treatment with Fog Seal
1010.01	101001	Blended Finely Divided Minerals
107.38	10738	Bridge Demolition Debris
107.19a	10719a	Building Removal with Asbestos Abatement
107.19d	10719d	Building Removal
107.40	10740	Compensable Delay Costs
108.05a	10805a	Completion Date (Via Calendar Days)
108.05b	10805b	Completion Date (Via Calendar Days) Plus working Days
504.00	50400	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet
542.00	54200	Concrete End Sections for Pipe Culverts
107.01	10701	Construction Air Quality – Diesel Retrofit
542.03	54203	Corrugated Plastic Pipe (Culvert and Storm Sewer)
108.06a	10806a	Disadvantaged Business Enterprise Participation

REVISED INDEX

ALPHABETIC LIST OF DESIGN INTERIM SPECIAL PROVISIONS (ISP's)

Standard Spec. No.	PC No.	Item
109.03	10903	Fuel Cost Adjustment
780.14	78014	Green Preformed Thermoplastic Pavement Markings
644.00	64400	High Tension Cable Median Barrier
632.00	63200	High Tension Cable Median Barrier Removal
1030.10	103010	Hot-Mix Asphalt
442.08	44208	Hot-Mix Asphalt - Patching
108.06c	10806c	Illinois Works Apprenticeship Initiative – State Funded Contracts
821.00	82100	Luminaires, LED
406.00f	40600f	Material Transfer Device
1003.07	100307	Mechanically Stabilized Earth Retaining Walls
80441	80441	Performance Graded Asphalt Binder
1020.11	102011	Portland Cement Concrete-Haul Time
107.11	10711a	Railroad Protective Liability Insurance
542.02	54202	Sloped Metal End Section for Pipe Culverts
701.15	70115	Speed Display Trailer
109.00	10900a	Steel Cost Adjustment
109.14	10914	Subcontractor and DBE Payment Reporting
109.12	10912	Subcontractor Mobilization Payments
109.13	10913	Submission of Payroll Records
406.11	40611	Surface Testing of Pavements – IRI
701.13	70113	Traffic Spotters
108.06	10806	Training Special Provision
542.01	54201	Traversable Pipe Grate for Concrete End Sections
405.50	40550	Ultra-Thin Bonded Wearing Course

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ALPHABETIC LIST OF DESIGN INTERIM SPECIAL PROVISIONS (ISP's)

REVISED INDEX

ALPHABETIC LIST OF DESIGN INTERIM SPECIAL PROVISIONS (ISP's)

1061.05	106105	Waterproofing Membrane System
108.06b	10806b	Weekly DBE Trucking Reports
108.05	10805	Working Days
701.03	70103	Work Zone Traffic Control Devices

BDE Special Provisions

Inform Robert Julich (Railroad Coordinator) when this item has been revised.
Designer Notes: This special provision will be required in your contract if the construction work in any way is on, over, under, or abuts the railroad right-of-way of a railroad. All resurfacing projects that abut the railroad tracks will also require this special provision. A railroad agreement may be necessary and a minimum one (1) year lead time is required to develop and obtain approval. This special provision has been revised to incorporate the BDE Special Provision, "Railroad Protective Liability Insurance (5 and 10)" by adding a field to indicate when the railroad is a Class 1. It has also been revised to update the list of Class 1 railroads and remove redundancy with Article 107.11 as revised in the 2022 Standard Specifications. Class 1 railroads include the following:

Class 1 Railroads
The Belt Railway Company of Chicago
BNSF Railway Company
Chicago, Central & Pacific Railroad Company and its Parents
Canadian Pacific Railway/Soo Line Railroad
CSX Transportation, Inc.
Dakota, Minnesota, and Eastern Railroad Company
Grand Trunk Western Railroad Company and its Parents
Illinois Central Railroad Company and its Parents
Indiana Harbor Belt Railroad Company
The Kansas City Southern Railway Company and its Affiliates / Gateway Western Railway
Metra *
Norfolk Southern Corporation and its subsidiaries
Union Pacific Railroad Company
Wisconsin Central, Ltd. Company and its Parents

Discuss use of these railroad special provisions with the District Railroad Coordinator and your Project Engineer.

Make sure to fill in the blanks below and mark "yes" or "no" for the Class 1 Railroad.

RAILROAD PROTECTIVE LIABILITY INSURANCE (BDE)

Effective: December 1, 1986
Revised: January 1, 2022

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications. A separate policy is required for each railroad unless otherwise noted.

NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS

Class 1 RR (Y or N):
DOT/AAR No.: RR Mile Post:
RR Division: RR Sub-Division:

For Freight/Passenger Information Contact: Phone:
For Insurance Information Contact: Phone:

Class 1 RR (Y or N):
DOT/AAR No.: RR Mile Post:
RR Division: RR Sub-Division:

For Freight/Passenger Information Contact: Phone:
For Insurance Information Contact: Phone:

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

Designer Note: Include on contracts with building demolition involving building removal with friable and/or non-friable asbestos. Use this special when there are multiple buildings to remove and at least one of them has asbestos.

Include the following from the asbestos containing building material (ACBM) building inspection report: (1) Sketches indicating the location of ACBMs, (2) Materials Description Table for a brief description and location of the various materials, and (3) Materials Quantities Table listing the approximate quantity of reach friable and/or non-friable ACBM. In identifying the buildings (on page 1 of this BDE Special Provision), include if asbestos has been found within the description.

The Pay Item, BUILDING REMOVAL NO. ____ should be inserted for each building on the contract, regardless of asbestos type.

BUILDING REMOVAL WITH ASBESTOS ABATEMENT (BDE)

Effective: September 1, 1990
Revised: August 1, 2022

Description. This work shall consist of the removal and disposal of building(s), including all foundations, retaining walls, and piers, down to a plane 1 ft. (300 mm) below the ultimate bottom of building elevation or proposed bottom of construction elevation. The building(s) are identified as follows:

Bldg. No.	Parcel No.	Location	Description

CONSTRUCTION REQUIREMENTS

General. The IEPA's "State of Illinois Demolition/Renovation/Asbestos Project Notification Form" shall be submitted and a copy sent to the Engineer. It shall be updated if there is a change in the start and/or finish date or if the quantity of asbestos changes by more than 20 percent.

Asbestos abatement work shall be performed by an IDPH licensed Contractor prequalified with the Illinois Capital Development Board who has an on-site supervisor licensed by IDPH and employs workers licensed by IDPH. This work shall be completed according to the requirements of the U.S. Environmental Protection Agency (USEPA), IEPA, OSHA, and local regulatory agencies.

Discontinuance of Utilities. The Contractor shall arrange for the discontinuance of all utility services and the removal of the metering devices that serve the building(s) according to the respective requirements and regulations of the city, county, or utility companies involved. The Contractor shall disconnect and seal the service outlets.

Posting. Upon execution of the contract and prior to the removal of any buildings, the Contractor shall paint or stencil, in contrasting colors of an oil base paint, on all sides of each building or structure, the following posting:

NO TRESPASSING
VIOLATORS WILL BE PROSECUTED

The postings shall be positioned prominently on the structure(s) so they can be easily read and at a sufficient height to prevent defacing.

Asbestos Abatement. Friable asbestos containing building materials (ACBMs) and Category II non-friable ACBMs shall be removed from the building(s) prior to demolition. Category II non-friable ACBMs include asbestos containing transite boards, siding, and other cementitious materials (cement pipe or highly weathered roofing shingles/materials) which have a likelihood of becoming friable during typical demolition activities (by crumbling, pulverizing, or otherwise reducing to powder) making them regulated asbestos containing materials (RACM). Removed ACBM shall be kept separate from non-ACBM demolition debris for purposes of transport and disposal.

Category I non-friable ACBM may be kept in place for demolition or removal of the building unless it has become friable as determined by the ACBM inspector. If the Contractor demolishes the building(s) with the non-friable asbestos in place, the following shall apply.

(a) The Contractor shall continuously wet the non-friable ACBM and other building debris with water during demolition and loading for disposal.

(b) The Contractor shall dispose of all demolition debris as ACBM.

The Contractor shall perform air monitoring during asbestos abatement activities. Air sampling shall be conducted by a qualified air sampling professional. Air sampling shall be conducted according to NIOSH Method 7400. Air monitoring equipment shall be calibrated and maintained in proper operating condition. The Contractor shall submit a copy of the air sampling professional's certificate to the Engineer. The results of the tests, and daily calibration and maintenance records shall be kept on site and be available to the Engineer upon request.

Personal monitoring shall be conducted per applicable OSHA regulations. Excursion limits shall be monitored daily, and corrective actions taken immediately to bring excursions within OSHA permissible exposure limits.

When asbestos is removed prior to demolition, clearance testing per IDPH shall be conducted upon the removal of ACBM.

Submittals. The following submittals shall be made to the Engineer prior to the start of the asbestos abatement:

(a) Manufacturer's certification stating that vacuums, ventilation equipment, and other equipment required to contain airborne fibers conform to ANSI 29.2.

(b) A listing of the brand name, manufacturer, and specification of all sealants or surfactants to be used.

(c) Proof that arrangements for transport and disposal of ACBMs have been obtained (i.e., a letter of authorization to utilize designated landfill).

(d) A detailed work plan of the Contractor's anticipated procedures including the location and layout of decontamination units, the sequencing of work, the respiratory protection plan, a site safety plan, a disposal plan, and a detailed description of the methods to be used to control pollution.

(e) Proof of the Contractor's prequalification with Capital Development Board and employee certifications with IDPH.

Submittals that shall be made upon completion of abatement work:

(f) Copies of waste chain-of-custodies, trip tickets, shipping manifests, or disposal receipts for asbestos waste materials removed from the work area.

(g) Copies of each day's work site entry logbook with information on worker and visitor access.

(h) Logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls.

(i) Test results of any bulk material analysis and air sampling data collected during the abatement including results of any on-site testing by any federal, state, or local agency.

Any holes, such as basements, shall be backfilled according to Article 502.10.

Basis of Payment. This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL NO. _____.

Removal and disposal of friable ACBM will be paid for at the contract lump sum unit price for REMOVAL AND DISPOSAL OF FRIABLE ASBESTOS, BUILDING NO. _____.

Removal and disposal of non-friable ACBM will be paid for at the contract lump sum unit price for REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. _____.

Designer Note: Include in all contracts with building demolition involving buildings containing no asbestos containing material. If even one building to be removed contains asbestos, use BDE Special "Building Removal with Asbestos Abatement". Land Acquisition inspects all buildings to be removed for asbestos material and can provide you with that information for use in choosing the correct BDE special provision.

BUILDING REMOVAL (BDE)

Effective: September 1, 1990
Revised: August 1, 2022

Description. This work shall consist of the removal and disposal of building(s), including all foundations, retaining walls, and piers, down to a plane 1 ft. (300 mm) below the ultimate bottom of building elevation or proposed bottom of construction elevation. The building(s) are identified as follows:

Bldg. No.	Parcel No.	Location	Description

CONSTRUCTION REQUIREMENTS

General. The IEPA's "State of Illinois Demolition/Renovation/Asbestos Project Notification Form" shall be submitted and a copy sent to the Engineer. It shall be updated if there is a change in the start and/or finish date or if asbestos is found to be present in the building(s) to be removed.

Discontinuance of Utilities. The Contractor shall arrange for the discontinuance of all utility services and the removal of the metering devices that serve the building(s) according to the respective requirements and regulations of the city, county, and utility companies involved. The Contractor shall disconnect and seal the service outlets.

Posting. Upon execution of the contract and prior to the removal of any buildings, the Contractor shall paint or stencil, in contrasting colors of an oil base paint, on all sides of each building or structure, the following posting:

NO TRESPASSING
VIOLATORS WILL BE PROSECUTED

The postings shall be positioned prominently on the structure so they can be easily read and at a sufficient height to prevent defacing.

Any holes, such as basements, shall be backfilled according to Article 502.10.

Basis of Payment. This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL NO. _____.

Designer Note: Insert into federal-aid contracts with at least one Trainee identified by the Office of Business and Workforce Diversity (OBWD). This is not determined by the district at submittal time so don't mark this special unless it is a larger job.

Any Federal Aid Project more than one-half million dollars may have trainees - check with the District EEO Officer at the time DBE goal is set up – if we assign trainees, we need this special provision. Generally, 1 Trainee = 500 Hours. Designer has value to insert (*).

It has been revised to base the applicability of the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) on the awarded contract value.

This special provision should be inserted into federal-aid contracts with at least one trainee identified by the Office of Business and Workforce Diversity (OBWD).

The districts should include the BDE Check Sheet marked with the applicable special provisions for the January 21, 2022 and subsequent lettings. The Project Coordination and Implementation Section will include a copy in the contract.

TRAINING SPECIAL PROVISIONS (BDE)

Effective: October 15, 1975
Revised: January 1, 2022

This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities,"and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be _____. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee it employs on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor Employment Training Administration shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower-level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting its performance under this Training Special Provision.

For contracts with an awarded contract value of $500,000 or more, the Contractor is required to comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules to the extent permitted by Section 20-20(g). For federally funded projects, the number of trainees to be trained under this contract, as stated in the Training Special Provisions, will be the established goal for the Illinois Works Apprenticeship Initiative 30 ILCS 559/20-20(g). The Contractor shall make a good faith effort to meet this goal. For federally funded projects, the Illinois Works Apprenticeship Initiative will be implemented using the FHWA approved OJT procedures. The Contractor must comply with the recordkeeping and reporting obligations of the Illinois Works Apprenticeship Initiative for the life of the project, including the certification as to whether the trainee/apprentice labor hour goals were met.

Method of Measurement. The unit of measurement is in hours.

Basis of Payment. This work will be paid for at the contract unit price of 80 cents-per-hour for TRAINEES. The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

Designer Note: Insert into all non-Federal-Aid contracts. These would be state only funds such as contract maintenance.

ILLINOIS WORKS APPRENTICESHIP INITIATIVE – STATE FUNDED CONTRACTS (BDE)

Effective: June 2, 2021
Revised: September 2, 2021

Illinois Works Jobs Program Act (30 ILCS 559/20-1 et seq.). For contracts having an awarded contract value of $500,000 or more, the Contractor shall comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules. The goal of the Illinois Apprenticeship Works Initiative is that apprentices will perform either 10% of the total labor hours actually worked in each prevailing wage classification or 10% of the estimated labor hours in each prevailing wage classification, whichever is less. The Contractor may seek from the Department of Commerce and Economic Opportunity (DCEO) a waiver or reduction of this goal in certain circumstances pursuant to 30 ILCS 559/20-20(b). The Contractor shall ensure compliance during the term of the contract and will be required to report on and certify its compliance. An apprentice use plan, apprentice hours, and a compliance certification shall be submitted to the Engineer on forms provided by the Department and/or DCEO.

Designer Note: Include on all projects involving steel metal piling (excluding temporary sheet piling), structural steel, and reinforcing steel. Also include for other materials such as dowel bars, tie bars, welded reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), frames and grates, and other miscellaneous items that may be subject to a steel cost adjustment when the pay item they are used in has a contract value of $10,000 or greater.

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004
Revised: January 1, 2022

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

Metal Piling (excluding temporary sheet piling)
Structural Steel
Reinforcing Steel

Other steel materials such as dowel bars, tie bars, welded reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of $10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

(a) The dates and quantity of steel, in lb. (kg), shipped from the mill to the fabricator.

(b) The quantity of steel, in lb. (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

SCA = Q X D

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb. (kg)
D = price factor, in dollars per lb. (kg)

$D = MPI_M - MPI_L$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb. to dollars per lb. (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price. The indices will be converted from dollars per 100 lb. to dollars per lb. (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the MPI_L and MPI_M in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness)	23 lb./ft. (34 kg/m)
Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness)	32 lb./ft. (48 kg/m)
Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness)	37 lb./ft. (55 kg/m)
Other piling	See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb. (3 kg) each
Welded Reinforcement	63 lb./100 sq. ft. (310 kg/sq m)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	20 lb./ft. (30 kg/m)
Steel Plate Beam Guardrail, Type B w/steel posts	30 lb./ft. (45 kg/m)
Steel Plate Beam Guardrail, Types A and B w/wood posts	8 lb./ft. (12 kg/m)
Steel Plate Beam Guardrail, Type 2	305 lb. (140 kg) each
Steel Plate Beam Guardrail, Type 6	1260 lb. (570 kg) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	730 lb. (330 kg) each
Traffic Barrier Terminal, Type 1 Special (Flared)	410 lb. (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	11 lb./ft. (16 kg/m)
Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 – 12 m)	14 lb./ft. (21 kg/m)
Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 – 16.5 m)	21 lb./ft. (31 kg/m)
Light Pole w/Mast Arm, 30 - 50 ft (9 – 15.2 m)	13 lb./ft. (19 kg/m)
Light Pole w/Mast Arm, 55 - 60 ft (16.5 – 18 m)	19 lb./ft. (28 kg/m)
Light Tower w/Luminaire Mount, 80 - 110 ft (24 – 33.5 m)	31 lb./ft. (46 kg/m)
Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 – 42.5 m)	65 lb./ft. (97 kg/m)
Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 – 48.5 m)	80 lb./ft. (119 kg/m)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	64 lb./ft. (95 kg/m)
Steel Railing, Type S-1	39 lb./ft. (58 kg/m)
Steel Railing, Type T-1	53 lb./ft. (79 kg/m)
Steel Bridge Rail	52 lb./ft. (77 kg/m)
Frames and Grates	
Frame	250 lb. (115 kg)
Lids and Grates	150 lb. (70 kg)

Designer Note: Use in all contracts using aggregate subgrade improvements. This special allows the use of gravel in fills between 12 and 24 inches in thickness. Discuss with the District Geotechnical Engineer to determine the appropriate thickness of the aggregate subgrade material.

AGGREGATE SUBGRADE IMPROVEMENT (BDE)

Effective: April 1, 2012
Revised: January 13, 2022

Add the following Section to the Standard Specifications:

"SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

303.01 Description. This work shall consist of constructing an aggregate subgrade improvement (ASI).

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.07
(b) Reclaimed Asphalt Pavement (RAP)	1031.09

303.03 Equipment. The vibratory roller shall be according to Article 1101.01, or as approved by the Engineer. Vibratory machines, such as tampers, shall be used in areas where rollers do not fit.

303.04 Soil Preparation. The minimum immediate bearing value (IBV) of the soil below the improved subgrade shall be according to the Department's "Subgrade Stability Manual" for the aggregate thickness specified.

303.05 Placing and Compacting. The maximum nominal lift thickness of aggregate gradations CA 2, CA 6, and CA 10 when compacted shall be 9 in. (225 mm). The maximum nominal lift thickness of aggregate gradations CS 1, CS 2, and RR 1 when compacted shall be 24 in. (600 mm).

The top surface of the aggregate subgrade improvement shall consist of a layer of capping aggregate gradations CA 6 or CA 10 that is 3 in. (75 mm) thick after compaction. Capping aggregate will not be required when aggregate subgrade improvement is used as a cubic yard pay item for undercut applications.

Each lift of aggregate shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

303.06 Finishing and Maintenance. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

303.07 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.08 Basis of Payment. This work will be paid for at the contract unit price per cubic yard (cubic meter) or ton (metric ton) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per Square Yard (Square Meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified."

Add the following to Section 1004 of the Standard Specifications:

"1004.07 Coarse Aggregate for Aggregate Subgrade Improvement (ASI). The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. In applications where greater than 24 in. (600 mm) of ASI material is required, gravel may be used below the top 12 in (300 mm) of ASI.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.

(c) Gradation.

(1) The coarse aggregate gradation for total ASI thickness less than or equal to 12 in. (300 mm) shall be CA 2, CA 6, CA 10, or CS 1.

The coarse aggregate gradation for total ASI thickness greater than 12 in. (300 mm) shall be CS 1 or CS 2 as shown below or RR 1 according to Article 1005.01(c).

	COARSE AGGREGATE SUBGRADE GRADATIONS				
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 1	100	97 ±3	90 ±10	45 ±25	20 ±20
CS 2		100	80 ±10	25 ±15	

	COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)				
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 1	100	97 ±3	90 ±10	45 ±25	20 ±20
CS 2		100	80 ±10	25 ±15	

(2) Capping aggregate shall be gradation CA 6 or CA 10."

Add the following to Article 1031.09 of the Standard Specifications:

"(b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Articles 1031.01(a), 1031.02(a), 1031.06(a)(1), and 1031.06(a)(2), and the following.

(1) The testing requirements of Article 1031.03 shall not apply.

(2) Crushed RAP used for the lower lift may be mechanically blended with aggregate gradations CS 1, CS 2, and RR 1 but it shall be no greater than 40 percent of the total product volume. RAP agglomerations shall be no greater than 4 in. (100 mm).

(3) For capping aggregate, well graded RAP having 100 percent passing the 1½ in. (38 mm) sieve may be used when aggregate gradations CS 1, CS 2, CA 2, or RR 1 are used in the lower lift. FRAP will not be permitted as capping material.

Blending shall be through calibrated interlocked feeders or a calibrated blending plant such that the prescribed blending percentage is maintained throughout the blending

process. The calibration shall have an accuracy of ±2.0 percent of the actual quantity of material delivered."

Designer Note: This special provision should be inserted into contracts involving bituminous surface treatment (aka chip seal) with fog seal.

The aggregate gradation must be specified in the plans as CA 14, CA 15, CA 16, CA 20, FA 1 (Special), FA 4 (Special), or FA 22. Districts are encouraged to use CA 20.

BITUMINOUS SURFACE TREATMENT WITH FOG SEAL (BDE)

Effective: January 1, 2020
Revised: January 1, 2022

Replace Section 403 of the Standard Specifications with the following:

"SECTION 403. BITUMINOUS SURFACE TREATMENT WITH FOG SEAL

403.01 Description. This work shall consist of constructing a single or multiple course bituminous surface treatment with fog seal.

(a) A-1. A-1 shall consist of an emulsified asphalt and a seal coat aggregate with an emulsified asphalt fog seal.

(b) A-2. A-2 shall consist of an emulsified asphalt and a cover coat aggregate, and an emulsified asphalt and seal coat aggregate with an emulsified asphalt fog seal.

(c) A-3. A-3 shall consist of two separate applications of an emulsified asphalt and cover coat aggregate, and an emulsified asphalt and seal coat aggregate with an emulsified asphalt fog seal.

403.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cover Coat Aggregate	1003, 1004.03
(b) Seal Coat Aggregate (Note 1)	1003, 1004.03
(c) Emulsified Asphalts (Note 2) (Note 3)	1032

Note 1. The seal coat aggregate shall be either fine or coarse aggregate.

When fine aggregate is used, it shall be stone sand, wet bottom boiler slag, slag sand, or steel slag sand. The aggregate gradation shall be FA 1 (Special), FA 4 (Special), or FA 22 as specified on the plans and shall meet the following.

FINE AGGREGATE GRADATIONS						
Grad. No.	Sieve Size and Percent Passing					
	3/8 in. (9.5 mm)	No. 4 (4.75 mm)	No. 8 (2.36 mm)	No. 16 (1.18 mm)	No. 40 (425 µm)	No. 200 (75 µm)

FA 1 (Special)	100	90 ±10	62.5 ±17.5	32.5 ±7.5	7.5 ±7.5	1.5 ±1
FA 4 (Special)	100	--	--	2 ± 2	--	1.5 ±1
FA 22	100	1/	1/	8 ± 8	--	2 ±2

1/ For the fine aggregate gradation FA 22, the aggregate producer shall set the midpoint percent passing, and the Department will apply a range of ±10 percent. The midpoint shall not be changed without Department approval.

When coarse aggregate is used, it shall be crushed gravel, crushed stone, wet bottom boiler slag, crushed slag, crushed sandstone, or crushed steel slag. The coarse aggregate material shall be selected from the table in Article 1004.03(a) based upon the friction aggregate mixture specified. The aggregate quality shall be Class B and the total chert count shall be no more than 25.0 percent by weight (mass) as determined by the ITP 203. The aggregate gradation shall be CA 14, CA 15, CA 16, or CA 20 as specified on the plans.

Note 2. The emulsified asphalt used to construct the bituminous surface treatment shall be either CRS-2P or HFRS-2P.

Note 3. The emulsified asphalt used to construct the fog seal shall be either SS-1h or CSS-1h.

403.03 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Self-Propelled Pneumatic-Tired Roller (Note 1)	1101.01
(b) Mechanical Sweeper (Note 2)	1101.03
(c) Aggregate Spreaders (Note 3)	1102.04
(d) General Use Pressure Distributor (Note 4)	1102.05(a)
(e) Heating Equipment	1102.07

Note 1. There shall be a minimum of two rollers, with the final number of rollers determined by the rollers' abilities to maintain proper spacing with the aggregate spreader as directed by the Engineer.

Note 2. The mechanical sweeper shall be power driven and self-propelled with the broom located between the axles. The mechanical sweeper shall not use a cantilever-mounted broom and the broom rotation shall not be operated by forward movement.

Note 3. The aggregate spreader shall be a self-propelled mechanical type with the receiving hopper in the rear and shall pull the aggregate truck. The spreader shall be fitted with an automated system which provides positive interconnected control of the aggregate flow with the forward speed of the spreader. The automated system shall provide uniform and consistent aggregate application at the rate specified.

The Engineer will check the spread roll of the aggregate spreader for straightness each day before operations begin. Should the surface of the spread roll vary off a straight line along its longitudinal dimension by more than 1/16 in. (1.5 mm), the Engineer will inspect

the application of aggregate for corrugations and, should these occur, the machine shall be repaired or replaced. The forward speed of the spreader during calibration shall be the same as is to be used during construction. The equipment required for aggregate spreader calibration may consist of several sheets of canvas, each being exactly 1 sq.yd. (0.8 sq.m), and a weight scale. By making several runs at different gate openings over the sheets of canvas, placed to cover the full width applied by the spreader, and carefully measuring the aggregate on each canvas sheet, the gate opening at the pre-established speed required to apply aggregate at the specified rate may be determined.

Note 4. The general use pressure distributor shall have a minimum capacity of 3,000 gal. (11,500 L). The application rate control shall be automated and shall control the application rate regardless of ground speed or spray bar width. The computer shall have the capability of recording the application rate, gallons sprayed, square yards, and feet traveled. The general use pressure distributor shall be capable of maintaining the asphalt emulsion at the specified temperature. The spray bar nozzles shall produce a uniform triple lap application fan spray, and the shutoff shall be instantaneous, with no dripping. The general use pressure distributor shall be capable of maintaining the specified application rate within ±0.015 gal/sq. yd. (±0.070 L/sq. m) for each load. The spray-bar nozzles shall be turned to make the same angle with the longitudinal axis of the spray bar as recommended by the manufacturer.

Application rates shall be determined by the procedures listed in ASTM D 2995, except the sample may be taken on three 8 x 12 in. (200 mm x 300 mm) metal plates. The three plates shall be positioned as directed by the Engineer.

CONSTRUCTION REQUIREMENTS

403.04 Weather Limitations. This work shall be done between May 1st and August 31st. Emulsified asphalt shall be applied only when the temperature of the air in the shade is above 55°F (13°C). No work shall be started if local conditions indicate that rain is imminent.

Fog seal operations shall be performed during daylight hours and not during foggy weather. The road surface may be damp but shall be free of standing water.

This work may be done between September 1st and September 15th provided both of the following conditions are met:

(a) The temperature of the air in the shade is above 70°F (20°C) and the temperature of the surface to which the asphalt will be applied is 70°F (20°C) or above, and

(b) The National Weather Service forecast for the area does not show any rain or any temperatures below 55°F (13°C) for the day the work is to be done or for the following five days.

403.05 Repair and Preparation of Base or Existing Surface. The base or existing surface shall be prepared according to Section 358.

403.06 Calibration. At least three days prior to starting the work, the Contractor shall provide the Engineer with a copy of the manufacturer's recommendations for the equipment to be used. The working day prior to starting construction, the general use pressure distributor and aggregate spreader shall be calibrated and adjusted according to the manufacturer's

recommendations. Calibrations and adjustments shall be made in the presence of the Engineer on a level surface at a location approved by the Engineer. The Contractor shall maintain proper calibration and adjustment of the equipment and the Engineer reserves the right to check application rates as the work progresses. Should the equipment fail to consistently apply the specified rates, the work shall be stopped, and the Contractor shall recalibrate and readjust the equipment.

403.07 Application Rates. Based upon the aggregate gradation to be used, the Contractor shall determine the application rates of emulsified asphalt and cover or seal coat aggregate. The application rates along with the gradations shall be submitted to the Engineer for approval prior to the start of work. Application rates shall be according to the following table for the aggregate type shown on the plans and shall result in aggregate embedment between 50 and 70 percent behind the roller. Changes in the application rate of greater than 15 percent shall be resubmitted to the Engineer for approval.

Aggregate Type	Emulsified Asphalt Rate	Aggregate Rate
CA 14	0.38 – 0.46 gal./sq. yd. (1.7 – 2.1 L/sq. m)	24 – 32 lb./sq. yd. (13 – 17 kg/sq. m)
CA 15	0.38 – 0.46 gal/sq. yd. (1.7 – 2.1 L/sq. m)	22 – 30 lb./sq. yd. (12 – 16 kg/sq. m)
CA 16	0.38 – 0.45 gal./sq. yd. (1.7 – 2.0 L/sq. m)	18 – 26 lb./sq. yd. (10 – 14 kg/sq. m)
CA 20	0.36 – 0.45 gal./sq. yd. (1.6 – 2.0 L/sq. m)	18 – 26 lb./sq. yd. (10 – 14 kg/sq. m)
FA 1 (Special)	0.26 – 0.30 gal./sq. yd. (1.2 – 1.4 L/sq. m)	16 – 20 lb./sq. yd. (9 – 11 kg/sq. m)
FA 4 (Special)	0.28 – 0.36 gal./sq. yd. (1.3 – 1.6 L/sq. m)	18 – 24 lb./sq. yd. (10 – 13 kg/sq. m)
FA 22	0.32 – 0.40 gal/sq yd (1.5 – 1.8 L/sq m)	15 – 22 lb/sq yd (8 – 12 kg/sq m)

403.08 Preparation of Emulsified Asphalt. The temperature of the emulsified asphalt at the time of application shall be such that it sprays uniformly without clogging the spraying nozzles and is applied within the temperature range of 150°F – 190°F (65°C – 90°C).

403.09 Preparation of Aggregate. The aggregate shall be stockpiled near the jobsite according to Article 1003.01(e) or 1004.01(e). The aggregate used shall contain no free moisture, but the aggregate shall be slightly damp (saturated surface-dry or drier).

403.10 Application of Emulsified Asphalt. The emulsified asphalt shall be applied with a general use pressure distributor. The entire length of the spray bar shall be set at the height above the surface recommended by the manufacturer for even distribution of the emulsified asphalt. A hand spray bar shall be used at locations not covered by the distributor.

The distributor shall be operated in a manner such that missing or overlapping of transverse joints shall be avoided. To prevent overlapping of successive applications of emulsified asphalt at transverse joints, heavy paper shall be spread over the previously applied emulsified asphalt and aggregates. In order to obtain a uniform application of the emulsified asphalt, the distributor

shall be traveling at the speed required for the specified rate of application when the spray bar crosses the paper.

Adjacent construction, such as concrete pavement, curb and gutter, bridge floors, raised reflective pavement markers, and bridge handrails, shall be protected by shields, covers or other means. If emulsified asphalt is applied to adjacent construction, the Contractor shall remove such material to the satisfaction of the Engineer.

The emulsified asphalt shall not be applied when the wind conditions will inhibit uniform coverage from the fans of asphalt being applied.

403.11 Application of Aggregates. The cover and seal coat aggregates shall be spread evenly with an aggregate spreader over the entire surface being treated. When treating one-half of the pavement width at a time, an inside strip of uncovered emulsified asphalt 3 in. (75 mm) wide shall be left during construction of the first half to provide center joint overlap when the second half of the treatment is placed. In all cases, the aggregate shall be applied ahead of the truck or spreader wheels. Hand spreading will be permitted only when approved by the Engineer and, when so permitted, the aggregate shall be spread uniformly and at the approximate rate specified. Any ridges of aggregate left by the aggregate spreader shall be smoothed out with hand brooms immediately behind the aggregate spreader.

Equipment involved in the work shall operate as close to each other as practical. The aggregate spreader shall be within 150 ft. (45 m) of the pressure distributor and the aggregate shall cover the asphalt emulsion within 30 seconds of application to ensure proper asphalt/aggregate adhesion.

Each aggregate truck shall be equipped with a suitable hitch for connection to the aggregate spreader while unloading. The trucks shall avoid contact between the truck body or bed and the aggregate spreader. The body or bed of the truck shall be modified, if necessary, to empty cleanly and completely into the receiving hopper of the aggregate spreader. No aggregate shall be allowed to spill onto the road surface when the truck is emptying into this hopper.

403.12 Cover Coat. Emulsified asphalt for the cover coat shall not be applied until the previous application is acceptable to the Engineer.

At the beginning of each day's work, no emulsified asphalt shall be applied until there is sufficient cover coat aggregate in the trucks at the work site to completely cover the first application of asphalt emulsion. The amount of surface area covered by each successive application of emulsified asphalt shall be determined by the Engineer. In no case shall this area be greater than can be covered with cover coat aggregate and given the initial rolling while the emulsified asphalt is still in condition to hold aggregate.

The emulsified asphalt shall be applied uniformly over the surface at the rate specified in the table above. Immediately following the application of the asphalt emulsion, the cover coat aggregate shall be spread over the treated surface at the rate specified in the table above.

The aggregate shall be rolled following spreading. A maximum time of five minutes will be allowed between the spreading of aggregate and completion of the initial rolling of the aggregate. The rollers shall proceed in a longitudinal direction at a speed less than or equal to 5 m.p.h.
(8 km/h). Each roller will travel over the aggregate a minimum of two times. The entire surface

shall be rolled immediately with a self-propelled pneumatic-tired roller. Rolling shall proceed in a longitudinal direction beginning at the edges and progressing toward the center, overlapping on successive trips by at least 1/2 the width of the roller. The aggregate shall then be rolled with a separate pneumatic-tired roller until the aggregate is properly seated in the asphalt emulsion.

403.13 Seal Coat. When constructing A-2 or A-3, the seal coat shall not be started until the cover coat immediately preceding the seal coat is completed.

Application of the emulsified asphalt and aggregate and rolling of the seal coat shall be the same as specified above for the cover coat.

During the construction period, the Contractor shall maintain the completed work. If necessary, the Contractor shall apply additional seal coat aggregate to absorb excess bitumen appearing on the surface and shall repair any areas where pickup has occurred.

The Contractor shall use the appropriate sweeping equipment to perform an initial sweeping after a minimum of two hours curing and not less than one hour before sunset on the day the bituminous surface treatment is placed. The initial sweeping shall remove excess aggregate by lightly sweeping each pavement lane. The sweeping shall be sufficient to prevent migration of loose aggregate back onto any part of the pavement.

The Contractor shall sweep the pavement surface as needed to remove excess aggregate.

403.14 Application of Fog Seal. The emulsified asphalt for the fog seal shall not be applied to the treated surface until the seal coat has cured for at least 24 hours.

The emulsified asphalt shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface of 0.03 to 0.08 lb./sq. ft. (0.146 to 0.391 kg/sq. m). An application rate greater than 0.05 lb./sq. ft. (0.244 kg/sq m) shall be applied in two passes, one from each direction. The Contractor shall demonstrate the application will produce 100 percent coverage of the surface after curing. If the application demonstration does not meet the coverage requirements, the spray pattern shall be adjusted until approved by the Engineer. The emulsified asphalt shall be applied in a manner to minimize the amount of overspray.

A check shall be performed in the first 1,000 ft. (300 m) to verify the application rate according to the test procedure for "Determination of Residual Asphalt in Prime and Tack Coat Materials".

403.15 Opening to Traffic. The road shall be opened to traffic according to Article 701.17(c)(4).

403.16 Method of Measurement. The bituminous surface treatment (A-1, A-2, or A-3) will be measured for payment in place and the area computed in square yards (square meters). The width for measurement will be the top width of the bituminous surface treatment as shown on the plans or as directed by the Engineer.

Emulsified asphalt for fog seal will be measured for payment as specified in Section 1032.

403.17 Basis of Payment. This work will be paid for at the contract unit price per Square Yard (Square Meter) for BITUMINOUS SURFACE TREATMENT, of the type specified.

Emulsified asphalt for fog seal will be paid for at the contract unit price per Pound (Kilogram) of residual asphalt for BITUMINOUS MATERIALS (FOG SEAL).

When provided as a payment item, the preparation of the existing surface will be measured and paid for as specified in Section 358. If not provided as a payment item, preparation of existing surface will be paid for according to Article 109.04."

Designer Note: Select the mixture composition based upon the roadway type and calculate the quantity of the rapid setting polymer modified emulsion (RSPME), i.e. tack coat, based upon the planned residual asphalt rate shown below. The planned thickness of each mixture is shown for the designers use in determining final elevations and is not something that can be altered.

Roadway Type	Mixture Composition	Planned Thickness	Planned Residual Asphalt Rate of RSPME
Interstate	IL-12.5 UTB	0.9 in.	0.19 lb./sq. ft.
Non-Interstate	IL-9.5 UTB	0.75 in.	0.14 lb./sq. ft.

ULTRA-THIN BONDED WEARING COURSE (BDE)

Effective: April 1, 2020
Revised: January 1, 2022

Description. This work shall consist of constructing an ultra-thin bonded (UTB) wearing course on a prepared pavement.

Materials. Materials shall be according to the following.

Item	Article/Section
(a) Fine Aggregate	1003.03
(b) Coarse Aggregate (Note 1)	1004.03
(c) Mineral Filler	1011
(d) Performance Graded Asphalt Binder (Note 2)	1032.05
(e) Bituminous Materials (Note 3)	1032

Note 1. The blending, alternate use, and/or substitutions of aggregates from different sources for use in this work will not be permitted without the approval of the Engineer. Any blending shall be by interlocked mechanical feeders. The blending shall be uniform, compatible with the other components of the mix, and the equipment shall be approved by the Engineer.

If blending aggregates, the blend shall have a washed gradation performed every other day or a minimum of three tests per week. Testing shall be completed before the aggregate receives final acceptance for use in the mix.

Note 2. The asphalt binder shall be either SBR or SBS PG 70-22.

Note 3. The bituminous material used for tack coat shall be a rapid setting anionic polymer modified emulsion or a rapid setting cationic polymer modified emulsion. When using a cationic material, the supplier shall certify prior to the start of mix production, the material has a positive particle charge when tested according to AASHTO T 59. When using either a cationic or anionic material, the supplier shall certify prior to the start of mix production, the material meets the following requirements.

Tests on Emulsions (AASHTO T 59)	Result
Viscosity, Saybolt Furol, 77°F (25°C), s	20 - 100
Viscosity, Rotational Paddle, 77°F (25°C), mPa-s (AASHTO T 382)	40 - 200
Storage Stability Test, 24 hours, % 1/	1 max.
Sieve Test, % retained on #20 (850 µm) sieve	0.05 max.
Residue from Distillation, %	63 min.
Demulsibility: 35 ml, 0.02N $CaCl_2$, %, or 35 ml, 0.8% dioctyl sodium sulfosuccinate, %	 40 min. 40 min.

Tests on Residue from Evaporation	Result
Penetration, 77°F (25°C), 100 g, 5 s, 0.1 mm, (AASHTO T 49)	90 - 150
Elastic Recovery, 50°F (10°C), straight sided, 5 cm/min, 20 cm elongation, 5 min hold, % (AASHTO T 301)	50 min.
Ash Content, % (AASHTO T 59)	1 max.

1/ Upon examination of the storage stability test cylinder after standing undisturbed for 24 hours, the surface shall show minimal to no white, milky colored substance and shall be a homogenous brown color throughout. The material may be released prior to completion of the test based on approval of the Department.

Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Tandem Rollers (Note 1)	1101.01
(b) Hot-Mix Asphalt Plant	1102.01
(c) Spreading and Finishing Machine (Note 2)	1102.03
(d) Heating Equipment	1102.07

Note 1. A minimum of two tandem rollers (T_B), operating in the static mode, sufficient to match paving production will be required.

Note 2. The spreading and finishing machine shall be a "spray-paver" capable of spraying the tack coat, applying the wearing course, and providing a smooth surface to the mat in one pass at the rate of 30 ft./min. (9 m/min.) or greater. The wearing course shall be spread over the tack coat within five seconds of applying the tack coat during normal paving speeds. No wheel or other part of the spray-paver shall come in contact with the tack coat before the wearing course is applied. The spray-paver shall also have the following:

(1) a receiving hopper with a minimum of two heated twin screw feed augers,

(2) an integral storage tank for tack coat material,

(3) integral twin expandable emulsion spray bars located immediately in front of the asphalt spread augers and an activated screed,

(4) variable width vibratory heated activated screed. The screed shall have the ability to be crowned at the center both positively and negatively and have vertically adjustable extensions to accommodate the desired pavement profile.

CONSTRUCTION REQUIREMENTS

Mixture Design. The target values for the Job Mix Formula (JMF) shall fall within the following limits.

ULTRA-THIN BONDED, MIXTURE COMPOSITION (% PASSING)		
Sieve Size	IL-12.5 UTB	IL-9.5 UTB
3/4 in. (19 mm)	100	--
1/2 in. (12.5 mm)	85 - 100	100
3/8 in. (9.5 mm)	55 - 80	85 - 100
No. 4 (4.75 mm)	22 - 38	22 - 38
No. 8 (2.36 mm)	19 - 32	19 - 32
No. 16 (1.18 mm)	15 - 24	15 - 24
No. 30 (600 µm)	11 - 18	11 - 18
No. 50 (300 µm)	8 - 14	8 - 14
No. 100 (150 µm)	5 - 10	5 - 10
No. 200 (75 µm)	4 - 5.5	4 - 5.5
Asphalt Binder, %	4.6 - 6.1	4.8 - 6.1

The need for an anti-stripping additive shall be determined according to Article 1030.05(c).

The effective binder film thickness shall be a minimum of 0.3 ±0.03 mils (10 ±1 µm). The percent asphalt binder of the mix shall be determined by calculating the binder film thickness in accordance with Illinois Test Procedure (ITP) 406.

Draindown from the loose mixture shall not exceed 0.10 percent when tested according to Illinois Modified AASHTO T 305. The draindown shall be tested at the job mix formula asphalt content plus 0.5 percent. The temperature shall be the mixing temperature plus 59°F (15°C). The temperature shall not exceed 350°F (175°C).

The mixture shall not contain reclaimed materials.

The mixing temperature shall be according to Illinois Modified AASHTO T 312.

Preparation of Mineral Aggregates. The aggregates shall be heated in such a manner as to assure the mixing temperature is uniformly maintained. The aggregates shall be dried to less than 0.3 percent residual moisture by weight. This may require the aggregate to be processed twice through the drier.

Mix Production. After target values have been determined for the JMF, an adjustment/plant change may be made according to the following limitations.

Parameter	Adjustment

3/8 in. (9.5 mm)	±5%
No. 4 (4.75 mm)	±5%
No. 8 (2.36 mm)	±5%
No. 200 (75 µm)	±1.5%
Asphalt Binder Content 1/	±0.3%

1/ The quantity of anti-stripping additive will not be included in this percentage.

Adjustments outside the above limitations will require a new mix design.

Placing. The placement conditions of Article 406.06(c) shall apply, except the surface of the existing pavement shall be cleaned using a mechanical or vacuum sweeper; and the mixture shall only be placed when the pavement and ambient air temperatures are at least 50°F (10°C) at the time of placement and the forecast is for rising temperatures.

The IL-12.5 UTB mixture shall be placed at a rate of 90 lb./sq. yd. (50 kg/sq. m). The IL-9.5 UTB mixture shall be placed at a rate of 75 lb./sq. yd. (40 kg/sq. m). These placement rates are based on a mixture with a unit weight of 100 lb./sq. yd./in. (2.1 kg/sq m/mm) and a specific gravity of 2.5. Mixtures with a different specific gravity will require an adjusted placement rate to maintain the planned thickness.

The tack coat shall be uniformly spray applied with the spreading and finishing machine at a temperature of 120 - 180°F (50 - 80°C). The rate of application shall be accurately and continuously monitored to ensure a uniform application over the entire width to be overlaid. The rate of application shall be determined as follows.

(a) Determination of In-Place Air Voids. Two 6 in. (150 mm) specimens shall be prepared according to AASHTO T 312 to 80 gyrations. The percent air voids shall be determined according to AASHTO T 269. The air void determination shall be the average of the two specimens. 2.5 percent air voids shall be added to the lab determined air voids to approximate in-place air voids.

(b) Calculated Application Rate. Calculate the volume of 1 sq. yd. (1 sq. m) of mix at a depth of 70 percent of the nominal maximum aggregate size. Multiply that volume by the percent of in-place air voids. Convert the volume to gal (L). Express the result in lb./sq. ft. (kg/sq. m).

The Engineer will make field adjustments to the calculated application rate no greater than ±0.05 lb./sq. ft. (±0.25 kb/sq. m) based on the existing surface condition. Once the target application rate is established, the tolerance shall be ±0.01 lb./sq. ft. (±0.05 kg/sq. m).

Compaction. Compaction shall consist of each area of the mat receiving a minimum of two passes with a tandem roller, before the material temperature has fallen below 180°F (80°C).

Opening to Traffic. The wearing course may be opened to traffic when it has hardened to the satisfaction of the Engineer.

Quality Control/Quality Assurance. Material testing shall be according to Articles 1030.06 and 1030.09, except the following tests will not be required.

(a) Bituminous Core Density
(b) Nuclear Density
(c) G_{mm} and G_{mb} testing

Additionally, the Contractor shall have a representative present during construction that is familiar with the lay down of the product and its design methods.

Method of Measurement. The bituminous material for tack coat will be measured for payment as specified in Section 1032.

The wearing course will be measured for payment in place and the quantity computed in Square Yards (Square Meters).

Basis of Payment. The tack coat will be paid for at the contract unit price per Pound (Kilogram) of residual asphalt for RAPID SETTING POLYMER MODIFIED EMULSION.

The wearing course will be paid for at the contract unit price per Square Yard (Square Meter) for ULTRA-THIN BONDED WEARING COURSE, of the mixture composition and friction aggregate specified.

Designer Note: This special provision shall be inserted into interstate HMA resurfacing and full-depth HMA contracts. For full-depth HMA contracts, an MTD shall be used for constructing all lifts of the pavement. It may be inserted in other HMA paving contracts at the district's discretion.

The operation or transportation of heavy equipment on pavement or structures within contract limits is governed by Article 107.16 of the Standard Specifications and implemented through Construction Memorandum No. 39. Additionally, this special provision contains specific restrictions regarding travel on structures. The designer shall submit information to the Bureau of Bridges and Structures identifying the structures that will be crossed by a Category I MTD. The Bureau of Bridges and Structures will analyze the structures to verify that they have the capacity to safely carry an emptied Category I MTD and will provide the designer with recommendations. The recommendations provided by the Bureau of Bridges and Structures will identify any structure, which due to general deterioration or insufficient load carrying capacity, cannot be crossed by an emptied Category I MTD. The plans shall include notice to the contractor of special requirements and restrictions for structures that cannot be crossed by an emptied Category I MTD. The notice shall indicate to the contractor that the emptied Category I MTD must be transported over the identified structures on a transport vehicle and that information describing axle loads and axle spacing of the transport vehicle must be provided to the Engineer for review by the Bureau of Bridges and Structures.

MATERIAL TRANSFER DEVICE (BDE)

Effective: June 15, 1999
Revised: January 1, 2022

Add the following to Article 406.03 of the Standard Specifications:

"(n) Material Transfer Device 1102.02"

Add the following to the end of Article 406.06(f) of the Standard Specifications:

"When required, a material transfer device (MTD) shall be used to transfer the HMA from the haul trucks to the spreading and finishing machine. The particular HMA mixtures for which an MTD is required will be specified in the plans. When not required, an MTD may still be used at the Contractor's option, subject to the requirements and restrictions herein. Use of MTDs shall be according to the following.

MTD Category	Usage
Category I	Any resurfacing application Full-Depth HMA where the in-place binder thickness is ≥ 10 in. (250 mm)
Category II	Full-Depth HMA where the in-place binder thickness is < 10 in. (250 mm)

Category I MTD's will only be allowed to travel over structures under the following conditions:

(1) Approval will be given by the Engineer.

(2) The MTD shall be emptied of HMA material prior to crossing the structure and shall travel at crawl speed across the structure.

(3) The tires of the MTD shall travel on or in close proximity and parallel to the beam and/or girder lines of the structure."

Add the following to the end of Article 406.13(b) of the Standard Specifications:

"The required use of an MTD will be measured for payment in tons (metric tons) of the HMA mixtures placed with the MTD. The use of an MTD at the Contractor's option will not be measured for payment."

Add the following between the second and third paragraphs of Article 406.14 of the Standard Specifications:

"The required use of an MTD will be paid for at the contract unit price per ton (metric ton) for MATERIAL TRANSFER DEVICE. The HMA mixtures placed with the MTD will be paid for separately according to their respective specifications."

Revise Article 1102.02 of the Standard Specifications to read:

"1102.02 Material Transfer Device (MTD). The MTD shall be according to the following.

(a)Requirements. The MTD shall have a minimum surge capacity of 15 tons (13.5 metric tons), shall be self-propelled and capable of moving independent of the paver, and shall be equipped with the following.

(1) Front-Dump Hopper and Conveyor. The conveyor shall provide a positive restraint along the sides of the conveyor to prevent material spillage. MTDs having paver style hoppers shall have a horizontal bar restraint placed across the foldable wings which prevents the wings from being folded.

(2) Paver Hopper Insert. The paver hopper insert shall have a minimum capacity of 14 tons (12.7 metric tons).

(3) Mixer/Agitator Mechanism. This re-mixing mechanism shall consist of a segmented, anti-segregation, re-mixing auger.

(b) Qualification and Designation. The MTD shall be on the Department's qualified product list with one of the following designations.

(1) Category I. The MTD has a documented maximum HMA carrying capacity contact pressure greater than 25 psi and has a central surge hopper of sufficient capacity to mix upstream HMA with downstream HMA.

(2) Category II. The MTD has a documented maximum HMA carrying capacity contact pressure less than or equal to 25 psi."

Designer Note: This special provision should be inserted with contracts involving Portland cement concrete pavement, hot-mix asphalt pavement (full-depth), or HMA overlays with a minimum of 2.00 inches total thickness of new HMA material and at least two activities. An activity is defined as either milling or a lift of HMA (binder or surface).

SURFACE TESTING OF PAVEMENTS – IRI (BDE)

Effective: January 1, 2021
Revised: January 1, 2022

Description. This work shall consist of testing the ride quality of the finished surface of pavements, according to Illinois Test Procedure 701, "Ride Quality Testing Using the International Roughness Index (IRI)". Work shall be according to Sections 406, 407, or 420 of the Standard Specifications, except as modified herein.

Hot-Mix Asphalt (HMA) Overlays

Add Article 406.03(n) to the Standard Specifications:

"(n) Pavement Surface Grinding Equipment ..... 1101.04"

Revise Article 406.11 of the Standard Specifications to read:

"**406.11 Surface Tests.** Prior to pavement improvements, the Engineer will measure the smoothness of the existing high-speed mainline pavement. The Contractor shall measure the smoothness of the finished high-speed mainline, low-speed mainline, and miscellaneous pavements within seven days of paving. Testing shall be performed in the presence of the Engineer and according to Illinois Test Procedure 701. The pavement will be identified as high-speed mainline, low-speed mainline, or miscellaneous as follows.

(a) Test Sections

(1) High-Speed Mainline Pavement. High-speed mainline pavement shall consist of pavements, ramps, and loops with a posted speed limit greater than 45 m.p.h. These sections shall be tested with an inertial profiling system (IPS).

(2) Low-Speed Mainline Pavement. Low-speed mainline pavement shall consist of pavements, ramps, and loops with a posted speed limit of 45 m.p.h. or less. These sections shall be tested with an IPS and will be analyzed using the rolling 16 ft. (5 m) straightedge simulation in ProVAL.

(3) Miscellaneous Pavement. Miscellaneous pavement includes segments that either cannot readily be tested by an IPS or conditions beyond the control of the contractor preclude the achievement of smoothness levels typically achievable with mainline pavement construction. This may include the following examples or as determined by the Engineer.

(a) Pavement on horizontal curves with a centerline radius of curvature of less than or equal to 1,000 ft. (300 m) and the pavement within the superelevation transition of such curves;

(b) Pavement on vertical curves having a length less than or equal to 200 ft. (60 m) in combination with an algebraic change in tangent grade greater than or equal to 3 percent as may occur on urban ramps or other constricted-space facilities;

(c) The first and last 50 ft. (15 m) of a pavement section where the Contractor is not responsible for the adjoining surface;

(d) Intersections and the 25 ft. (7.6 m) before and after an intersection or end of radius return;

(e) Variable width pavements;

(f) Side street returns, to the end of radius return;

(g) Crossovers;

(h) Connector pavement from the mainline pavement expansion joint to the bridge approach slab;

(i) Bridge approach slab;

(j) Pavement that must be constructed in multiple short segments, typically defined as 600 ft (180 m) or less;

(k) Pavement within 25 ft. (7.6 m) of manholes, utility structures, or other appurtenances;

(l) Turn lanes; and

(m) Pavement within 5 ft. (1.5 m) of jobsite sampling locations for HMA volumetric testing that fall within the wheel path.

Miscellaneous pavement shall be tested using a 16 ft. (5 m) straightedge.

(4) International Roughness Index (IRI). An index computed from a longitudinal profile measurement using a quarter-car simulation at a simulation speed of 50 m.p.h. (80 km/h).

(5) Mean Roughness Index (MRI). The average of the IRI values for the right and left wheel tracks.

(6) Areas of Localized Roughness (ALR). Isolated areas of roughness, which can cause significant increase in the calculated MRI for a given sublot.

(7) Lot. A lot will be defined as a continuous strip of pavement 1 mile (1,600 m) long and one lane wide. When the length of a continuous strip of pavement is less than 1 mile (1,600 m), that pavement will be included in an adjacent lot. Structures will be omitted when measuring pavement length but will not be considered as a discontinuity and the numbering of sublots will not restart. The limits of the structure shall include the entire length between the outside ends of both connector pavements.

(8) Sublot. Lots will be divided into 0.1-mile (160 m) sublots. A partial sublot greater than or equal to 264 ft. (80 m) resulting from an interruption in the pavement will be subject to the same evaluation as a whole sublot. Partial sublots less than 264 ft. (80 m) shall be included with the previous sublot for evaluation purposes.

(b) Corrective Work. Corrective work shall be completed according to the following.

(1) High-Speed Mainline Pavement. For high-speed mainline pavement, any 25 ft. (7.6 m) interval with an ALR in excess of 150 in./mile (2,400 mm/km) will be identified by the Engineer and shall be corrected by the Contractor. Any sublot having a MRI greater than MRI_D, including ALR, shall be corrected to reduce the MRI to the MRI_F, or replaced at the Contractor's option.

(2) Low-Speed Mainline Pavement. Bumps in low-speed mainline pavement which exceed the 5/16 in. (8 mm) tolerance using a simulated 16 ft. (5 m) straightedge will be identified by the Engineer and shall be corrected by the Contractor.

(3) Miscellaneous Pavements. Bumps in miscellaneous pavement which exceed the 5/16 in. (8 mm) tolerance on a 16 ft. (5 m) straightedge will be identified by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed with pavement surface grinding equipment or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance, with the beginning and ending of the corrected area normal to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the sublot(s) shall be retested. The Contractor shall furnish the data and reports to the Engineer within two (2) working days after corrections are made. If the MRI and/or ALR still do not meet the requirements, additional corrective work shall be performed.

Corrective work shall be at no additional cost to the Department.

(c) Smoothness Assessments. Assessments will be paid to or deducted from the Contractor for each sublot of high-speed mainline pavement per the Smoothness Assessment Schedule. Assessments will be based on the MRI of each sublot prior to performing any corrective work unless the Contractor has chosen to remove and replace the sublot. For sublots that are replaced, assessments will be based on the MRI determined after replacement.

The upper MRI thresholds for high-speed mainline pavement are dependent on the MRI of the existing pavement before construction (MRI_0) and shall be determined as follows.

Upper MRI Thresholds 1/	MRI Thresholds (High-Speed, HMA Overlay)	
	$MRI_0 \leq 125.0$ in./mile (≤ 1,975 mm/km)	$MRI_0 > 125.0$ in./mile 1/ (> 1,975 mm/km)
Incentive (MRI_I)	45.0 in./mile (710 mm/km)	$0.2 \times MRI_0 + 20$
Full Pay (MRI_F)	75.0 in./mile (1,190 mm/km)	$0.2 \times MRI_0 + 50$
Disincentive (MRI_D)	100.0 in./mile (1,975 mm/km)	$0.2 \times MRI_0 + 75$

1/ MRI_0, MRI_I, MRI_F, and MRI_D shall be in in./mile for calculation.

Smoothness assessments for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, HMA Overlay)

Mainline Pavement MRI Range	Assessment Per Sublot [1/]
$MRI \leq MRI_I$	$+ (MRI_I - MRI) \times \$33.00$ [2/]
$MRI_I < MRI \leq MRI_F$	+ $0.00
$MRI_F < MRI \leq MRI_D$	$- (MRI - MRI_F) \times \$20.00$
$MRI > MRI_D$	– $500.00

1/ MRI, MRI_I, MRI_F, and MRI_D shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed $500.00.

Smoothness assessments will not be paid or deducted until all other contract requirements for the pavement are satisfied. Pavement that is corrected or replaced for reasons other than smoothness, shall be retested as stated herein."

Hot-Mix Asphalt (HMA) Pavement (Full-Depth)

Revise the first paragraph of Article 407.03 of the Standard Specifications to read:

"**407.03 Equipment.** Equipment shall be according to Article 406.03."

Revise Article 407.09 of the Standard Specifications to read:

"**407.09 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows:

The testing of the existing pavement prior to improvements shall not apply and the smoothness assessment for high-speed mainline pavement shall be determined according to the following table.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, Full-Depth HMA)	
Mainline Pavement MRI, in./mile (mm/km)	Assessment Per Sublot [1/]
≤ 45.0 (710)	$+ (45 - MRI) \times \$80.00$ [2/]
> 45.0 (710) to 75.0 (1,190)	+ $0.00
> 75.0 (1,190) to 100.0 (1,580)	$- (MRI - 75) \times \$30.00$
> 100.0 (1,580)	– $750.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed $1,200.00."

Portland Cement Concrete Pavement

Delete Article 420.03(i) of the Standard Specifications.

Revise Article 420.03(j) of the Standard Specifications to read:

"(i) Coring Machine (Note 1)"

Revise Article 420.10 of the Standard Specifications to read:

"**420.10 Surface Tests.** The finished surface of the pavement shall be tested for smoothness

according to Article 406.11, except as follows.

The testing of the existing pavement prior to improvements shall not apply. The Contractor shall measure the smoothness of the finished surface of the pavement after the pavement has attained a flexural strength of 250 psi (3,800 kPa) or a compressive strength of 1,600 psi (20,700 kPa).

Membrane curing damaged during testing shall be repaired as directed by the Engineer at no additional cost to the Department.

(a) Corrective Work. No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to ground areas according to Article 420.18 at no additional cost to the Department.

Pavement corrected by removal and replacement, shall be corrected in full panel sizes.

(b) Smoothness Assessments. Smoothness assessment for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, PCC)	
Mainline Pavement MRI, in./mile (mm/km) 3/	Assessment Per Sublot 1/
≤ 45.0 (710)	+ (45 – MRI) × $120.00 2/
> 45.0 (710) to 75.0 (1,190)	+ $0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × $45.00
> 100.0 (1,580)	– $1,125.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed $1,800.00.

3/ If pavement is constructed with traffic in the lane next to it, then an additional 10 in./mile will be added to the upper thresholds."

Removal of Existing Pavement and Appurtenances

Revise the first paragraph of Article 440.04 of the Standard Specifications to read:

"**440.04 HMA Surface Removal for Subsequent Resurfacing.** The existing HMA surface shall be removed to the depth specified on the plans with a self-propelled milling machine. The removal depth may be varied slightly at the discretion of the Engineer to satisfy the smoothness requirements of the finished pavement. The temperature at which the work is performed, the nature and condition of the equipment, and the manner of performing the work shall be such that the milled surface is not torn, gouged, shoved or otherwise damaged by the milling operation. Sufficient cutting passes shall be made so that all irregularities or high spots are eliminated to the satisfaction of the Engineer. When tested with a 16 ft. (5 m) straightedge, the milled surface shall have no surface variations in excess of 3/16 in. (5 mm)."

Designer Note: Insert this special provision into all projects with 442.08 Class D patching or pavement patching pay items.

HOT-MIX ASPHALT – PATCHING (BDE)

Effective: January 13, 2022

Replace Article 442.08(b) of the Standard Specifications with the following:

"(b) Density. The density of the compacted HMA shall be according to Articles 1030.06, 1030.09(b), 1030.09(c), and 1030.09(f)."

Designer Note: Use on all projects with High Tension Cable Median Barrier Removal pay item.

HIGH TENSION CABLE MEDIAN BARRIER REMOVAL (BDE)

Effective: January 13, 2022

Replace Section 632 of the Standard Specifications with the following:

"SECTION 632. GUARDRAIL, CABLE ROAD GUARD, AND HIGH TENSION CABLE MEDIAN BARRIER REMOVAL

632.01 Description. This work shall consist of the removal and disposal of existing guardrail (including traffic barrier terminals), cable road guard, and high tension cable (HTC) median barrier.

CONSTRUCTION REQUIREMENTS

632.02 General. Posts and terminals shall be removed completely or cut off at least 6 in. (150 mm) below the ground surface. Socket foundations shall be removed at least 1 ft. (300 mm) below the ground surface. All holes shall be filled and tamped. Pavement or paved mow strip shall be level and free of protrusions or loose pieces greater than 1 in. (25 mm).

HTC median barrier shall be disconnected at the nearest turnbuckle past the removal limits. Mow strip, anchorage system, and other appurtenances within the removal limits shall be removed.

Materials that are to be salvaged under the contract or which the Engineer deems fit for reuse shall be removed and stored at locations and in a manner approved by the Engineer. Materials that are not to be salvaged or materials unfit for reuse through no fault of the Contractor shall be removed and disposed of according to Article 202.03.

632.03 Method of Measurement. This work will be measured for payment in feet (meters), measured from the limits of removal as directed by the Engineer.

632.04 Basis of Payment. This work will be paid for at the contract unit price per Foot (Meter) for GUARDRAIL REMOVAL, CABLE ROAD GUARD REMOVAL, or HIGH TENSION CABLE MEDIAN BARRIER REMOVAL."

Designer Note: Insert into all contracts with a high tension cable median barrier pay item.

HIGH TENSION CABLE MEDIAN BARRIER (BDE)

Effective: January 1, 2020
Revised: January 1, 2022

Revise Note 2 in Article 644.02 of the Standard Specifications to read:

"Note 2. The wire rope (cable) shall be according to AASHTO M 30, Type 1 with Class A coating, of the diameter shown in the manufacturer's specifications. Additionally, the wire rope shall be prestretched and shall have a minimum breaking strength of 39,900 lbs. (177 kN) for ¾ in. (19 mm) wire rope (individual wire strength equivalent to 174,000 psi (1,200 N/sq. mm)) and the prestretched wire rope shall have a minimum modulus of elasticity of 11,805,000 psi (8,300 kg/sq mm)."

Revise the first paragraph of Article 644.05 of the Standard Specifications to read:

"**644.05 Line Posts.** Line posts for the HTC median barrier shall consist of driving posts directly into the soil or setting posts in driven sockets or concrete socket foundations. Posts shall be placed at the spacing and depth recommended by the manufacturer."

Revise Article 782.01 of the Standard Specifications to read:

"**782.01 Description.** This work shall consist of furnishing and installing reflectors on guardrail, barrier wall, high tension cable (HTC) median barrier, and curbs."

Revise the first paragraph of Article 782.04 of the Standard Specifications to read:

"**782.04 Guardrail, Barrier Wall, and High Tension Cable Median Barrier Reflectors.** Guardrail, barrier wall, and HTC median barrier reflectors shall be vertical and perpendicular to the surface on which they are installed."

Add the following to the end of Article 782.04 of the Standard Specifications:

"(d) High Tension Cable Median Barrier Reflectors. HTC median barrier reflectors shall be monodirectional and attached to each anchorage post and first line post. Beyond the first line post, the reflectors shall be spaced according to the following table.

Reflector Spacing Table	
Distance from HTC to Outside Edge of Shoulder	Nominal Spacing
≤ 8 ft (2.4 m)	80 ft (24 m)
> 8 ft (2.4 m) but ≤ 30 ft (9.1 m)	400 ft (122 m)
> 30 ft (9.1 m)	Omit Reflectors

HTC median barrier reflectors shall be attached at a minimum height of 24 in. (600 mm) above ground level at the base of the post. The method of attaching HTC median barrier reflectors shall be as specified by the manufacturer."

Revise Article 782.07 of the Standard Specifications to read:

"**782.07 Basis of Payment.** This work will be paid for at the contract unit price per each for GUARDRAIL REFLECTORS, of the type specified, BARRIER WALL REFLECTORS, of the type specified, HIGH TENSION CABLE MEDIAN BARRIER REFLECTORS, or CURB REFLECTORS."

Revise the first paragraph of Article 1097.02 of the Standard Specifications to read:

"**1097.02 Guardrail, Barrier Wall, and High Tension Cable Median Barrier Reflectors.** Guardrail, barrier wall, and HTC median barrier reflectors shall be according to the following."

Add the following subparagraph to Article 1097.02 of the Standard Specifications:

"(d) High Tension Cable Median Barrier Reflectors. HTC median barrier reflectors shall be monodirectional, amber colored, and provide a minimum reflective area of 7 sq. in. (4,520 sq. mm). The reflective sheeting shall meet Type AZ according to Article 1091.03 and meet the minimum coefficient of retroreflection for "white" and "yellow" as specified therein. The reflector shall be approved by the HTC system manufacturer as compatible with the system."

Designer Note: This special provision should be inserted into all freeway and expressway projects involving Highway Standard 701400 and other contracts at the district's discretion requiring speed display trailers.

SPEED DISPLAY TRAILER (BDE)

Effective: April 2, 2014
Revised: January 1, 2022

Revise the last paragraph of Article 701.11 of the Standard Specifications to read:

"When not being utilized to inform and direct traffic, sign trailers, speed display trailers, arrow boards, and portable changeable message boards shall be treated as nonoperating equipment."

Add the following to Article 701.15 of the Standard Specifications:

"(m) Speed Display Trailer. A speed display trailer is used to enhance safety of the traveling public and workers in work zones by alerting drivers of their speed, thus deterring them from driving above the posted work zone speed limit."

Add the following to Article 701.20 of the Standard Specifications:

"(k) When speed display trailers are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other speed display trailers, this work will be paid for at the contract unit price per Calendar Month or fraction thereof for each trailer as SPEED DISPLAY TRAILER."

Add the following to Article 1106.02 of the Standard Specifications:

"(o) Speed Display Trailer. The speed display trailer shall consist of a LED speed indicator display with self-contained, one-direction radar mounted on an orange see-through trailer. The height of the display and radar shall be such that it will function and be visible when located behind concrete barrier.

The speed measurement shall be by radar and provide a minimum detection distance of 1,000 ft. (300 m). The radar shall have an accuracy of ±1 mile-per-hour.

The speed indicator display shall face approaching traffic and shall have a sign legend of "YOUR SPEED" immediately above or below the speed display. The sign letters shall be between 5 in. and 8 in. (125 mm and 200 mm) in height. The digital speed display shall show two digits (00 to 99) in m.p.h. The color of the changeable message legend shall be a yellow legend on a black background. The minimum height of the numerals shall be 18 in. (450 mm), and the nominal legibility distance shall be at least 750 ft. (250 m).

The speed indicator display shall be equipped with a violation alert that flashes the displayed detected speed when the work zone posted speed limit is exceeded. The speed indicator shall have a maximum speed cutoff. On roadway facilities with a normal

posted speed limit greater than or equal to 45 m.p.h., the detected speeds of vehicles traveling more than 25 m.p.h. over the work zone speed limit shall not be displayed. On facilities with normal posted speed limit of less than 45 m.p.h., the detected speeds of vehicles traveling more than 15 m.p.h. over the work zone speeds limit shall not be displayed. On any roadway facility if detected speeds are less than 25 mph, they shall not be displayed. The display shall include automatic dimming for nighttime operation.

The speed indicator measurement and display functions shall be equipped with the power supply capable of providing 24 hours of uninterrupted service."

Designer Note: This special provision should be inserted in contracts using green thermoplastic pavement markings as part of an intersection with specific bicycle accommodation design.

Green pavement markings for right-turn lane conflicts and bicycle boxes shall be detailed in the plans and paid for per Square Foot as PREFORMED THERMOPLASTIC PAVEMENT MARKINGS – LETTERS AND SYMBOLS. See BDE Manual 17-2.02(e) for more guidance.

GREEN PREFORMED THERMOPLASTIC PAVEMENT MARKINGS (BDE)

Effective: January 1, 2021
Revised: January 1, 2022

Revise the following in Table 1 of Article 780.15 of the Standard Specifications to read:

"SYMBOLS 1/		
Symbol	Large Size sq. ft. (sq. m)	Small Size sq. ft. (sq. m)
Through Arrow	11.5 (1.07)	6.5 (0.60)
Left or Right Arrow	15.6 (1.47)	8.8 (0.82)
2 Arrow Combination Left (or Right) and Through	26.0 (2.42)	14.7 (1.37)
3 Arrow Combination Left, Right, and Through	38.4 (3.56)	20.9 (1.94)
Lane Drop Arrow	41.5 (3.86)	--
Wrong Way Arrow	24.3 (2.26)	--
Railroad "R" 6 ft. (1.8 m)	3.6 (0.33)	--
Railroad "X" 20 ft. (6.1 m)	54.0 (5.02)	--
International Symbol of Accessibility	3.1 (0.29)	--
Bike Symbol	4.7 (0.44)	--
Shared Lane Symbol	8.0 (0.74)	
Intersection Bicycle Box 2/	variable sizes	
Two-Stage Bicycle Turn Box 2/	variable sizes	

1/ Table applies to all types of pavement marking materials, except intersection bicycle box and two-stage bicycle turn box which are limited to preformed thermoplastic.

2/ The cost of symbols appearing in the box are included in the overall square area of the box."

Add the following paragraph to the end of Article 1095.01(a)(2) of the Standard Specifications:

"The pigments used for the green thermoplastic compound shall not contain any hazardous materials listed in the Environmental Protection Agency Code of Federal Regulations (CFR) 40, Section 261.24, Table 1. The combined total of RCRA listed

heavy metals shall not exceed 100 ppm when tested by X-ray fluorescence spectroscopy. The pigments shall also be heat resistant, UV stable, and color-fast greens. The pigment shall be uniformly distributed throughout the thermoplastic compound."

Add the following to Article 1095.01(b)(1)e. of the Standard Specifications:

"Green **	Daylight Reflectance	15 % min.

** Shall meet the coordinates of the following color tolerance chart.

x	0.230	0.266	0.367	0.444
y	0.754	0.460	0.480	0.583"

Designer Note: This special provision should be inserted into contracts requiring the furnishing or installation of LED roadway luminaires, LED highmast luminaires, LED underpass luminaires, or LED sign lighting luminaires.

LUMINAIRES, LED (BDE)

Effective: April 1, 2019
Revised: January 1, 2022

Description. This work shall consist of furnishing and installing light emitting diode (LED) luminaires. Work shall be according to Sections 801, 821, and 1067 of the Standard Specifications, except as modified herein.

Submittals. In addition to the requirements listed in Article 801.05(a), submittals for LED luminaires shall include the following.

- Completed manufacturer's luminaire ordering form with the full catalog number provided.
- Descriptive literature and catalog cuts for the luminaire, driver, and surge protective device.
- Lighting calculations generated with AGi32 software demonstrating compliance with the Luminaire Performance Table(s) shown in the contract. These calculations shall be performed to the following criteria: photopic units shall be used; calculations shall be performed to an accuracy matching the number of significant digits given in the Luminaire Performance Table(s); point-by-point illuminance, luminance, and veiling luminance ratios demonstrating the submitted luminaire meets the lighting metrics specified in the Luminaire Performance Table(s) using IES RP-8 methods.

Upon request by the Engineer, submittals for LED Luminaires shall also include any or all the following.

- IES file associated with each submitted luminaire in IES LM-63 format.
- TM-21 calculator spreadsheet (XLSX or PDF format) and if available, TM-28 report for the specified luminaire or luminaire family. Both reports shall be for 50,000 hours at an ambient temperature of 77°F (25°C).
- LM-79 report with National Voluntary Laboratory Accreditation Program (NVLAP) current at the time of testing in PDF format inclusive of the following: isofootcandle diagram with half candela contour and maximum candela point; polar plots through maximum plane and maximum cone; coefficient of utilization graph; candela table; and spectral distribution graph and chromaticity diagram.
- LM-80 report for the specified LED package in PDF format and if available, LM-84 report for the specified luminaire or luminaire family in PDF format. Both reports shall be conducted by a laboratory with NVLAP certification current at the time of testing.

- In Situ Temperature Measurement Test (ISTMT) report for the specified luminaire or luminaire family in PDF format.
- Vibration test report in accordance with ANSI C136.31 in PDF format.
- ASTM B117/ASTM D1654 (neutral salt spray) test and sample evaluation report in PDF format.
- ASTM G154 (ASTM D523) gloss test report in PDF format.
- LED drive current, total luminaire input wattage, and current over the operating voltage range at an ambient temperature of 77°F (25°C).
- Power factor (pf) and total harmonic distortion (THD) at maximum and minimum supply and at nominal voltage for the dimmed states of 70%, 50%, and 30% full power.
- Ingress protection (IP) test reports, conducted according to ANSI C136.25 requirements, for the driver and optical assembly in PDF format.
- Installation, maintenance, and cleaning instructions in PDF format, including recommendations on periodic cleaning methods.
- Documentation in PDF format that the reporting laboratory is certified to perform the required tests.

Roadway Luminaires. Revise Article 821.02(d) to read.

"(d) Light Source 1067.06"

Revise the third paragraph of Article 821.03 to read.

"Each luminaire driver and/or driver arrangement shall be checked to ensure compatibility with the project power supply."

Replace the fifth paragraph of Article 821.03 with the following.

"No luminaire shall be installed before it is approved. When independent luminaire testing is required, full approval will not be given until complete test results which demonstrate compliance with the contract documents have been reviewed and accepted by the Engineer. Independent luminaire testing will be required, and shall be conducted, according to Article 1067.01(k)".

Revise the last paragraph of Article 821.03 to read.

"When installing or adjusting the luminaire, care shall be taken to avoid touching the lenses or allowing contaminants to be deposited on any part of the optical assembly. Each lens shall be free of all dirt, smudges, etc. Should the luminaire require cleaning, the luminaire manufacturer's cleaning instructions shall be strictly followed."

Revise Article 821.08 to read.

"**821.08 Basis of Payment.** This work will be paid for at the contract unit price per Each for LUMINAIRE, LED,

ROADWAY, of the output designation specified; LUMINAIRE, LED, HIGHMAST, of the output designation specified; LUMINAIRE, LED, UNDERPASS, WALLMOUNT, of the output designation specified; LUMINAIRE, LED, UNDERPASS, SUSPENDED, of the output designation specified; LUMINAIRE, LED, SIGN LIGHTING, of the output designation specified."

Luminaires. Revise Articles 1067.01 through 1067.06 to read:

"**1067.01 General.** The size, weight, and shape of the luminaire shall be designed so as not to incite detrimental vibrations in its respective pole and it shall be compatible with the pole and arm. All electrical and electronic components of the luminaire shall comply with the requirements of Restriction of Hazardous Materials (RoHS) regulations. The luminaire shall be listed for wet locations by an NRTL and shall meet the requirements of UL 1598 and UL 8750.

(a) Labels. An internal label shall be provided indicating the luminaire is suitable for wet locations and indicating the luminaire is an NRTL listed product to UL1598 and UL8750. The internal label shall also comply with the requirements of ANSI C136.22.

An external label consisting of two black characters on a white background with the dimensions of the label and the characters as specified in ANSI C136.15 for HPS luminaires. The first character shall be the alphabetical character representing the initial lumen output as specified in Table 1 of Article 1067.06(c). The second character shall be the numerical character representing the transverse light distribution type as specified in IES RP-8 (i.e. Types 1, 2, 3, 4, or 5).

(b) Surge Protection. The luminaire shall comply the requirements of ANSI C136.2 for electrical transient immunity at the "Extreme" level (20KV/10KA) and shall be equipped with a surge protective device (SPD) that is UL1449 compliant with indicator light. An SPD failure shall open the circuit to protect the driver.

(c) Optical Assembly. The optical assembly shall have an IP66 or higher rating in accordance with ANSI C136.25. The circuiting of the LED array shall be designed to minimize the effect of individual LED failures on the operation of other LEDs. All optical components shall be made of glass or a UV stabilized, non-yellowing material.

(d) Housing. All external surfaces shall be cleaned in accordance with the manufacturer's recommendations and be constructed in such a way as to discourage the accumulation of water, ice, and debris.

(e) Driver. The driver shall be integral to the luminaire and shall be capable of receiving indefinite open and short circuit output conditions without damage.

The driver shall incorporate the use of thermal foldback circuitry to reduce output current under abnormal driver case temperature conditions and shall be rated for a lifetime of 100,000 hours at an ambient temperature exposure of 77°F (25°C) to the luminaire. If the driver has a thermal shut down feature, it shall not turn off the LEDs when operated at 104°F (40°C) or less.

The driver shall have an input voltage range of 120 to 277 volts (±10%) or 347 to 480 volts (±10%) according to the contract documents. When the driver is operating within the rated input voltage range and in an un-dimmed state, the power factor measurement shall be not less than 0.9 and the THD measurement shall be no greater than 20%.

The driver shall meet the requirements of the FCC Rules and Regulations, Title 47, Part 15 for Class A devices with regard to electromagnetic compatibility. This shall be confirmed through the testing methods in accordance with ANSI C63.4 for electromagnetic interference.

The driver shall be dimmable using the protocol listed in the Luminaire Performance Table shown in the contract.

(f) Photometric Performance. The luminaire shall be IES LM-79 tested by a laboratory holding accreditation from the NVLAP for IES LM-79 testing procedures. At a minimum the LM-79 report shall include a backlight/uplight/glare (BUG) rating and a luminaire classification system (LCS) graph showing lumen values and percent lumens by zone as described in IES RP-8. The uplight of the BUG rating shall be U=0.

The luminaire shall also meet the requirements of the Luminaire Performance Table shown in the contract.

(g) Finish. The luminaire shall have a baked acrylic enamel finish. The color of the finish shall be gray, bronze, or black to match the pole or tower on which the luminaire is mounted.

The finish shall have a rating of six or greater according to ASTM D1654, Section 8.0 Procedure A – Evaluation of Rust Creepage for Scribed Samples after exposure to 1,000 hours of testing according to ASTM B117 for painted or finished surfaces under environmental exposure.

The luminaire finish shall have less than or equal to 30% reduction of gloss according to ASTM D523 after exposure of 500 hours to ASTM G154 Cycle 6 QUV® accelerated weathering testing.

(h) Hardware. All hardware shall be stainless steel or of other corrosion resistant material approved by the Engineer.

(i) Vibration Testing. All luminaires, with the exception of underpass and sign lighting luminaires, shall be subjected to and pass vibration testing requirements at "3G" minimum zero to peak acceleration in accordance with ANSI C136.31 requirements using the same luminaire. To be accepted, the luminaire housing, hardware, and each individual component shall pass this test with no noticeable damage and the luminaire must remain fully operational after testing.

(j) Wiring. All wiring in the luminaire shall be rated for operation at 600V, 221°F (105°C).

(k) Independent Luminaire Testing. When a contract has 30 or more luminaires of the same manufacturer's catalog number, that luminaire shall be independently tested to verify it will meet the contract requirements. The quantity of luminaires requiring testing shall be one luminaire for the first 30 plus one additional luminaire for each additional 50 luminaires of that catalog number. Testing is not required for temporary lighting luminaires.

Prior to testing the Contractor shall propose a properly accredited laboratory and a qualified independent witness, submitting their qualifications to the Engineer for approval. After approval, the Contractor shall coordinate the testing and pay all associated costs, including travel expenses, for the independent witness.

(1) Independent Witness. The independent witness shall select from the project luminaires at the manufacturer's facility the luminaires for testing. In all cases, the selection of luminaires shall be a random selection from the entire completed lot of luminaires required for the contract.

Selections from partial lots will not be allowed. The independent witness shall mark each sample luminaire's shipping carton with the IDOT contract number and a unique sample identifier.

At the time of random selection, the independent witness shall inspect the luminaire(s) for compliance with all physical, mechanical, and labeling requirements for luminaires according to Sections 821 and 1067. If deficiencies are found during the physical inspection, the Contractor shall have all luminaires of that manufacturer's catalog number inspected for the identified deficiencies and shall correct the problem(s) where found. Random luminaire selection and physical inspection must then be repeated. When the physical inspection is successfully completed, the independent witness shall mark the project number and sample identifier on the interior housing and driver of the luminaires and have them shipped to the laboratory.

The independent witness shall be present when testing is approved to be performed by the luminaire manufacturer. If the tests are performed by a laboratory independent of the luminaire manufacturer, distributor, and Contractor, the independent witness need not be present during the testing.

(2) Laboratory Testing. Luminaires shall be tested at an NVLAP accredited laboratory approved for each of the required tests. The testing shall include photometric, colorimetric, and electrical testing according to IES LM-79. Colorimetric values shall be determined from total spectral radiant flux measurements using a spectroradiometer. Photometric testing shall be according to IES recommendations and as a minimum, shall yield an isofootcandle chart, with max candela point and half candela trace indicated, an isocandela diagram, maximum plane and maximum cone plots of candela, a candlepower table (house and street side), a coefficient of utilization chart, a luminous flux distribution table, BUG rating report, and complete calculations based on specified requirements and test results.

All testing shall cover the full spherical light output at a maximum of 5-degree intervals at the vertical angles. The vertical angles shall run from 0 to 180 degrees. There shall be a minimum of 40 lateral test planes listed in Fig. 1 of IES LM-31 plus the two planes containing the maximum candela on the left and right sides of the luminaire axis. Before testing, the luminaire when mounted on the goniometer shall be scanned for vertical and horizontal angles of maximum candela and these planes included in the test. The luminaire shall be checked for a bi-symmetric light distribution. Individual tests must be conducted for each hemisphere, quadrant, and left/right sides.

The results for each photometric and colorimetric test performed shall be presented in a standard IES LM-79 report that includes the contract number, sample identifier, and the outputs listed above. The calculated results for each sample luminaire shall meet or exceed the contract specified levels in the luminaire performance table(s). The laboratory shall mark its test identification number on the interior of each sample luminaire.

Electrical testing shall be in according to IES LM-79 as well as NEMA and ANSI standards. The report shall list luminaire characteristics including input amperes, watts, power factor, total harmonic distortion, and LED driver current for full and partial power.

(3) Summary Test Report. The summary test report shall consist of a narrative documenting the test process, highlight any deficiencies and corrective actions, and clearly state which luminaires have met or exceeded the test requirements and may be released for delivery to the jobsite. Photographs shall also be used as applicable to document luminaire deficiencies and shall be included in the test report. The summary test report shall include the Luminaire Physical Inspection Checklist (form BDE 5650), photometric and electrical test reports, and point-by-point

photometric calculations performed in AGi32 sorted by luminaire manufacturers catalog number. All test reports shall be certified by the independent test laboratory's authorized representative or the independent witness, as applicable, by a dated signature on the first page of each report. The summary test reports shall be delivered to the Engineer and the Contractor as an electronic submittal. Hard copy reports shall be delivered to the Engineer for record retention.

(4) Approval of Independent Testing Results. Should any of the tested luminaires fail to satisfy the specifications and perform according to approved submittal information, all luminaires of that manufacturers catalog number shall be deemed unacceptable and shall be replaced by alternate equipment meeting the specifications. The submittal and testing process shall then be repeated in its entirety. The Contractor may request in writing that unacceptable luminaires be corrected in lieu of replacement. The request shall identify the corrections to be made and upon approval of the request, the Contractor shall apply the corrections to the entire lot of unacceptable luminaires. Once the corrections are completed, the testing process shall be repeated, including selection of a new set of sample luminaires. The number of luminaires to be tested shall be the same quantity as originally tested.

The process of retesting, correcting, or replacing luminaires shall be repeated until luminaires for each manufacturers catalog number are approved for the project. Corrections and re-testing shall not be grounds for additional compensation or extension of time. No luminaires shall be shipped from the manufacturer to the jobsite until all luminaire testing is completed and approved in writing.

Submittal information shall include a statement of intent to provide the testing as well as a request for approval of the chosen independent witness and laboratory. All summary test reports, written reports, and the qualifications of the independent witness and laboratory shall be submitted for approval to the Engineer with a copy to the Bureau of Design and Environment, 2300 South Dirksen Parkway, Room 330 Springfield, Illinois 62764.

1067.02 Roadway Luminaires. Roadway luminaires shall be according to Article 1067.01 and the following.

The luminaire shall be horizontally mounted and shall be designed to slip-fit on a 2-3/8 in. (60 mm) outside diameter pipe arm with a stop to limit the amount of insertion to 7 in. (180 mm). It shall not be necessary to remove or open more than the access door to mount the luminaire.

The effective projected area (EPA) of the luminaire shall not exceed 1.6 sq. ft. (0.149 sq. m) and the weight, including accessories, shall not exceed 40 lb. (18.14 kg). If the weight of the luminaire is less than 20 lb. (9.07 kg), weight shall be added to the mounting arm or a supplemental vibration damper installed as approved by the Engineer.

The luminaire shall be equipped with both internal and external leveling indicators. The external leveling indicator shall be clearly visible in daylight to an observer directly under the luminaire at a mounting height of 50 ft. (15.2 m).

The luminaire shall be fully prewired to accept a seven-pin, twist-lock receptacle that is compliant with ANSI C136.41. All receptacle pins shall be connected according to TALQ Consortium protocol.

The luminaire shall be provided with an installed shorting cap that is compliant with ANSI C136.10.

1067.03 Highmast Luminaires. Highmast luminaires shall be according to Article 1067.01 and the following.

The luminaire shall be horizontally mounted and shall be designed and manufactured for high mast tower use. The EPA of the luminaire shall not exceed 3.0 sq. ft. (0.279 sq. m) and the weight, including accessories, shall not exceed 85 lb. (38.6 kg).

The optical assembly shall be capable of being rotated 360 degrees. A vernier scale shall be furnished on the axis of rotation for aiming the luminaire in relation to its mounting tenon arm. The scale shall be graduated in 5-degree increments or less. The luminaire shall be clearly marked at the vernier as to 'house-side' and 'street-side' to allow proper luminaire orientation.

1067.04 Underpass Luminaires. Underpass luminaries shall be according to Article 1067.01 and the following.

The underpass luminaire shall be complete with all supports, hardware, and appurtenant mounting accessories. The underpass luminaire shall be suitable for lighting a roadway underpass at an approximate mounting height of 15 ft. (4.5 m) from a position suspended directly above the roadway edge of pavement or attached to a wall or pier. The underpass luminaire shall meet the requirements of ANSI C136.27.

It shall not be necessary to remove more than the cover, reflector and lens to mount the luminaire. The unit shall be suitable for highway use and shall have no indentations or crevices in which dirt, salt, or other corrosives may collect.

(a) Housing. The housing and lens frame shall be made of die cast aluminum or 16 gauge (1.5 mm) minimum thickness Type 304 stainless steel. All seams in the housing enclosure shall be welded by continuous welds.

The housing shall have an opening for installation of a 3/4 in. (19 mm) diameter conduit.

(b) Lens and Lens Frame. The frame shall not overlap the housing when closed. The luminaire shall have a flat glass lens to protect the LEDs from dirt accumulation or be designed to prevent dirt accumulation. The optic assembly shall be rated IP 66 or higher.

1067.05 Sign Lighting Luminaires. Sign lighting luminaries shall be suitable for lighting overhead freeway and expressway guide signs; and shall be according to Article 1067.01.

1067.06 Light Sources. The light sources in all luminaires shall be LED according to Article 1067.01 and the following.

(a) The light source shall be according to ANSI C136.37 for solid state light sources used in roadway and area lighting.

(b) The light source shall have a minimum color rendering index (CRI) of 70 and a nominal correlated color temperature (CCT) of 4,000 K.

(c) The rated initial luminous flux (lumen output) of the light source, as installed in the luminaire, shall be according to the following table for each specified output designation.

Output Designations and Initial Luminous Flux			(for information only)
Output Designation	Initial Luminous Flux (lm)		Approximate High Pressure Sodium (HPS) Equivalent Wattage
A	2,200		35 (Low Output)
B	3,150		50 (Low Output)
C	4,400		70 (Low Output)
D	6,300		100 (Low Output)
E	9,450		150 (Low Output)
F	12,500		200 (Med Output)
G	15,500		250 (Med Output)
H	25,200		400 (Med Output)
I	47,250		750 (High Output)
J	63,300		1,000 (High Output)
K	80,000+		1,000+ (High Output)

Luminaires with an initial luminous flux less than or greater than the values listed in the above table may be acceptable if they meet the requirements given in the Luminaire Performance Table shown in the contract and approved by the Engineer."

Designer Note: This special provision should be inserted into contracts using APS.

The installation of APS at signalized intersections should be based on the Bureau of Operations Policy on Accessible Pedestrian Signals and Pushbuttons for Traffic Signals and Pedestrian Hybrid Beacons.

- Pedestrian pushbutton posts and pedestrian signal heads are not part of this work. If they are needed, use the appropriate pay items as per Sections 876 and 881 of the Standard Specifications.
- Signs R10-3 and R10-3a may be used at any location with pedestrian signals to direct the pedestrian to the pushbutton.
- Signs R10-3e and R10-3i may be used as an educational sign where countdown pedestrian signals are provided. In order to assist the pedestrian in understanding which button to push, Sign R10-3i adds the name of the street to be crossed.
- The name of the street to be crossed may be substituted for the word STREET in the legend of signs R10-3a and R10-4a.
- Signs R10-4 and R10-4a shall be used at locations where pedestrian signals are not used and pedestrians proceed on a green signal indication.
- Specify the sign type in the plans. This may be accomplished with a schedule of quantities.

ACCESSIBLE PEDESTRIAN SIGNALS (APS) (BDE)

Effective: April 1, 2003
Revised: January 1, 2022

Description. This work shall consist of furnishing and installing accessible pedestrian signals (APS). Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid-state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements. The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29°F to +160 F (-34°C to +70 C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications. A pushbutton locator tone shall sound at each pushbutton and shall be deactivated during the associated walk indication and when associated traffic signals are in flashing mode. Pushbutton locator tones shall have a duration of 0.15 seconds or less and shall repeat at 1-second intervals. Each actuation of the pushbutton shall be accompanied by the speech message "Wait".

If two accessible pedestrian pushbuttons are placed less than 10 ft. (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "'Street Name.' Walk Sign is on to cross 'Street Name'." For signalized intersections utilizing exclusive pedestrian phasing, the verbal message shall be "Walk sign is

on for all crossings". In addition, a speech pushbutton information message shall be provided by actuating the APS pushbutton when the WALK interval is not timing. This verbal message shall be modeled after: "Wait. Wait to cross 'Street Name' at 'Street Name'".

Where two accessible pedestrian pushbuttons are separated by at least 10 ft. (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

At locations with railroad interconnection, an additional speech message stating "Walk time shortened when train approaches" shall be used after the speech walk message. At locations with emergency vehicle preemption, an additional speech message "Walk time shortened when emergency vehicle approaches" shall be used after the speech walk message.

Pedestrian Pushbutton. Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lbs. (15.5 N).

A red LED shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street.

Signage. A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall conform to one of the following standard MUTCD designs: R10-3, R10-3a, R10-3e, R10-3i, R10-4, and R10-4a.

Tactile Arrow. A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided on the pushbutton.

Vibrotactile Feature. The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Method of Measurement. This work will be measured for payment as Each, per pushbutton.

Basis of Payment. This work will be paid for at the contract unit price per Each for ACCESSIBLE PEDESTRIAN SIGNALS.

Designer Note: Insert into any contract with HMA items.

HOT-MIX ASPHALT (BDE)

Effective: January 1, 2022
Revised: August 1, 2022

Replace Article 1030.09(g)(1) of the Standard Specifications with the following:

"(1) The Contractor shall sample approximately 150 lb. (70 kg) of mix as required for the Department's random mixture verification tests according to Article 1030.09(h)(1)."

Replace the second sentence of Article 1030.09(h)(1) of the Standard Specifications with the following:

"The Engineer will randomly identify one sample for each 3,000 tons (2,720 metric tons) of mix, with a minimum of one sample per mix. If the remaining mix quantity is 600 tons (544 metric tons) or less, the quantity will be combined with the previous 3,000 tons (2,720 metric tons) in the Engineer's random sample identification. If the required tonnage of a mixture for a single pay item is less than 250 tons (225 metric tons) in total, the Engineer will waive mixture verification tests."

Add the following to the end of the third paragraph of Article 1030.09(h)(2) of the Standard Specifications:

"The HMA maximum theoretical specific gravity (G_{mm}) will be based on the Department mixture verification test. If there is more than one Department mixture verification G_{mm} test, the G_{mm} will be based on the average of the Department test results."

Add the following paragraph between the third and four paragraphs of Article 1030.10 of the Standard Specifications:

"When a test strip is not required, each HMA mixture with a quantity of 3,000 tons (2,750 metric tons) or more shall still be sampled on the first day of production: I-FIT and Hamburg wheel testing for High ESAL; I-FIT testing for Low ESAL. Within two working days after sampling the mixture, the Contractor shall deliver gyratory cylinders to the District laboratory for Department verification testing. The High ESAL mixture test results shall meet the requirements of Articles 1030.05(d)(3) and 1030.05(d)(4). The Low ESAL mixture test results shall meet the requirements of Article 1030.05(d)(4)."

Designer Note: This special provision should be inserted into contracts containing the pay item BITUMINOUS MATERIALS (TACK COAT), or any of the following types of work.

Section 312 Stabilized Subbase
Section 355 HMA Base Course
Section 356 HMA Base Course Widening
Section 404 Micro-Surfacing and Slurry Sealing
Section 405 Cape Seal
Section 406 HMA Binder and Surface Course
Section 407 HMA Pavement (Full-Depth)
Section 442 Pavement Patching
Section 507 Timber Structures
Section 581 Waterproofing Membrane System
BDE special provision "Ultra-Thin Bonded Wearing Course"
Local Roads & Streets Recurring Special Provision "Reflective Crack Control Treatment"

PERFORMANCE GRADED ASPHALT BINDER (BDE)

Effective: January 1, 2022

Revise Article 1032.05 of the Standard Specifications to read:

"**1032.05 Performance Graded Asphalt Binder.** These materials will be accepted according to the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure." The Department will maintain a qualified producer list. These materials shall be free from water and shall not foam when heated to any temperature below the actual flash point. Air blown asphalt, recycle engine oil bottoms (ReOB), and polyphosphoric acid (PPA) modification shall not be used.

When requested, producers shall provide the Engineer with viscosity/temperature relationships for the performance graded asphalt binders delivered and incorporated in the work.

(a) Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 "Standard Specification for Performance Graded Asphalt Binder" for the grade shown on the plans and the following.

Test	Parameter
Small Strain Parameter (AASHTO PP 113) BBR, ΔTc, 40 hrs. PAV (40 hrs. continuous or 2 PAV at 20 hrs.)	-5°C min.

(b) Modified Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 "Standard Specification for Performance Graded Asphalt Binder" for the grade shown on the plans.

Asphalt binder modification shall be performed at the source, as defined in the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure."

Modified asphalt binder shall be safe to handle at asphalt binder production and storage temperatures or HMA construction temperatures. Safety Data Sheets (SDS) shall be provided for all asphalt modifiers.

(1) Polymer Modification (SB/SBS or SBR). Elastomers shall be added to the base asphalt binder to achieve the specified performance grade and shall be either a styrene-butadiene diblock, triblock copolymer without oil extension, or a styrene-butadiene rubber. The polymer modified asphalt binder shall be smooth, homogeneous, and be according to the requirements shown in Table 1 or 2 for the grade shown on the plans.

Table 1 - Requirements for Styrene-Butadiene Copolymer (SB/SBS) Modified Asphalt Binders		
Test	Asphalt Grade SB/SBS PG 64-28 SB/SBS PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SB/SBS PG 76-22 SB/SBS PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77°F (25 C), 100 mm elongation, %	60 min.	70 min.

Table 2 - Requirements for Styrene-Butadiene Rubber (SBR) Modified Asphalt Binders		
Test	Asphalt Grade SBR PG 64-28 SBR PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SBR PG 76-22 SBR PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
Toughness ASTM D 5801, 77°F (25°C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	110 (12.5) min.	110 (12.5) min.
Tenacity ASTM D 5801, 77°F (25°C), 20 in./min. (500 mm/min.), in.-lbs. (N-m)	75 (8.5) min.	75 (8.5) min.

TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77°F (25°C), 100 mm elongation, %	40 min.	50 min.

(2) Ground Tire Rubber (GTR) Modification. GTR modification is the addition of recycled ground tire rubber to liquid asphalt binder to achieve the specified performance grade. GTR shall be produced from processing automobile and/or truck tires by the ambient grinding method or micronizing through a cryogenic process. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall not contain free metal particles, moisture that would cause foaming of the asphalt, or other foreign materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois Modified AASHTO T 27 "Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates" or AASHTO PP 74 "Standard Practice for Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method", a 50 g sample of the GTR shall conform to the following gradation requirements.

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ±5
No. 50 (300 µm)	> 20

GTR modified asphalt binder shall be tested for rotational viscosity according to AASHTO T 316 using spindle S27. GTR modified asphalt binder shall be tested for original dynamic shear and RTFO dynamic shear according to AASHTO T 315 using a gap of 2 mm.

The GTR modified asphalt binder shall meet the requirements of Table 3.

Table 3 - Requirements for Ground Tire Rubber (GTR) Modified Asphalt Binders		
Test	Asphalt Grade GTR PG 64-28 GTR PG 70-22	Asphalt Grade GTR PG 76-22 GTR PG 76-28 GTR PG 70-28
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77°F (25°C), 100 mm elongation, %	60 min.	70 min.

(3) Softener Modification (SM). Softener modification is the addition of organic compounds, such as engineered flux, bio-oil blends, modified vegetable oils, glycol amines, and fatty acid derivatives, to the base asphalt binder to achieve the specified performance grade. Softeners shall be dissolved, dispersed, or reacted in the asphalt binder to enhance its performance and shall remain compatible with the asphalt binder

with no separation. Softeners shall not be added to modified PG asphalt binder as defined in Articles 1032.05(b)(1) or 1032.05(b)(2).

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the softening compound as well as the softener modified asphalt binder at the dose intended for qualification. The ATR-FTIR spectra shall be collected on unaged softener modified binder, 20-hour Pressurized Aging Vessel (PAV) aged softener modified binder, and 40-hour PAV aged softener modified binder. The ATR-FTIR shall be collected in accordance with Illinois Test Procedure 601. The electronic files spectral files (in one of the following extensions or equivalent: *.SPA, *.SPG, *.IRD, *.IFG, *.CSV, *.SP, *.IRS, *.GAML, *.[0-9], *.IGM, *.ABS, *.DRT, *.SBM, *.RAS) shall be submitted to the Central Bureau of Materials.

Softener modified asphalt binders shall meet the requirements in Table 4.

Table 4 - Requirements for Softener Modified Asphalt Binders	
Test	Asphalt Grade SM PG 46-28 SM PG 46-34 SM PG 52-28 SM PG 52-34 SM PG 58-22 SM PG 58-28 SM PG 64-22
Small Strain Parameter (AASHTO PP 113) BBR, ΔTc, 40 hrs. PAV (40 hrs. continuous or 2 PAV at 20 hrs.) 1/	-5°C min.
Large Strain Parameter (Illinois Modified AASHTO T 391) DSR/LAS Fatigue Property, Δ|G*|peak τ, 40 hrs. PAV (40 hrs. continuous or 2 PAV at 20 hrs.)1/	Results (%) shall be reported to the Central Bureau of Materials

1/ Frequency of the testing will be determined by the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure."

The following grades may be specified as tack coats.

"Asphalt Grade	Use
PG 58-22, PG 58-28, PG 64-22	Tack Coat"

Revise Article 1031.06(c)(1) and 1031.06(c)(2) of the Standard Specifications to read:

"(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin ABR shall not exceed the amounts listed in the following table.

HMA Mixtures - RAP/RAS Maximum ABR % 1/ 2/			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface 3/
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

3/ The maximum ABR percentages for ground tire rubber (GTR) modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.

(2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the following table.

HMA Mixtures - FRAP/RAS Maximum ABR % 1/ 2/			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface 3/
30	55	45	15
50	45	40	15
70	45	35	15
90	45	35	15
SMA	- -	- -	25
IL-4.75	- -	- -	35

1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

3/ The maximum ABR percentages for GTR modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes."

Add the following to the end of Note 2. of Article 1030.03 of the Standard Specifications.

"A dedicated storage tank for the ground tire rubber (GTR) modified asphalt binder shall be provided. This tank shall be capable of providing continuous mechanical mixing throughout and/or recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300°F to 350°F (149°C to 177°C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ±0.40 percent."

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District Special Provisions

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Designer Note: Use on projects with complicated or large amounts of layout work to be performed by the Contractor. Consider using District Special 105.02 and 105.03 also. Make sure to check Recurring Special #9. Discuss with Construction.

CONSTRUCTION LAYOUT RESPONSIBILITY

Effective April 26, 2015 Revised: January 1, 2022

This special provision is included in addition to Check Sheet #9 of the Recurring Special Provisions, Special Provision for Construction Layout Stakes, to clearly define the responsibility of the Contractor for construction layout.

As the Contractor is generating the survey layout model, all roadway elements shall be verified to fit within the final proposed slopes and right-of-way. If the Contractor determines a portion of the plans is incorrect or a portion does not agree with another portion, they shall contact the Engineer to have the problem resolved and additional work, if any, agreed upon. The Contractor shall not proceed until authority is received from the Engineer and problems are resolved. The Engineer shall contact the District Studies and Plans Section if need be.

The Contractor shall set all horizontal control points at the end of construction and provide cross ties in a hardback survey book to the Engineer.

The Contractor shall also set and provide the Engineer with a list of final benchmarks in a hardback survey book at the end of construction for future control.

No additional compensation will be allowed for complying with this Special Provision, but all costs shall be included in the contract Lump Sum price for CONSTRUCTION LAYOUT.

Designer Note: Consider using on large projects requiring a lot of staking. Discuss with Construction and consider using District Special 105.01 and 105.03.

CONSTRUCTION LAYOUT UTILIZING GPS EQUIPMENT

Effective: April 26, 2015
Revised: January 1, 2022

If the Contractor opts to utilize GPS equipment for Construction Layout, the Contractor shall be required to complete the following in addition to the requirements of Check Sheet #9 of the Recurring Special Provisions and as directed by the Engineer.

1. Submit 3D drawings or show the Engineer the digital terrain model (or proof of some type) that the Contractor has generated all proposed information correctly for all parts of the job (Mainline, ramps, side roads, entrances, etc.) before starting any grading, structures, or paving work. This does not relieve the Contractor of responsibility of any possible errors made in the modeling.
2. The Contractor shall also submit a QC/QA written plan that they will be following to provide quality control on the actual layout and quality assurance checks of the layout during and after being completed. This will be required to be submitted at the beginning of construction and shall meet the approval of the Engineer.
3. Stationing lathes shall be placed and maintained along the right-of-ways lines, centerline of the median, and agreed offset from other baselines such as interchange ramps and side roads, throughout the duration of the contract.

No additional compensation will be allowed for complying with this special provision, but all costs shall be included in the contract Lump Sum price for CONSTRUCTION LAYOUT.

Designer Note: **This special provision is for use on Local Roads projects only.** Projects prepared by Program Development shall continue to use the Status of Utilities supplied by the Utilities Section and placed in the front of the plans.

STATUS OF UTILITIES/UTILITIES TO BE ADJUSTED

Effective: January 21, 2005
Revised: January 1, 2022

The following utilities are located within the project limits. For relocations, the utility companies have provided the estimated dates.

Name, Contact, Address And Phone Number of Utility	Type	Location	Relocation Needed	Estimated Date Relocation Completed

The above represents the best information of the Department and is only included for the convenience of the bidder. The applicable provisions of Recurring Special Provisions LRS1, LRS6 and Articles 105.07, 107.20 and 108.02 of the Standard Specifications for Road and Bridge Construction shall apply.

The estimated utility relocation dates should be part of the progress schedule submitted by the Contractor. If any utility adjustments or relocations have not been completed by the above dates specified and when required by the Contractor's operations after these dates, the Contractor should notify the Engineer in writing. A request for an extension of time will be considered to the extent the Contractor's critical path schedule is affected.

Designer Note: Insert into all projects involving a railroad including overpass or underpass construction and overlay projects requiring Railroad Protective Liability Insurance.

REQUIREMENTS WHEN WORKING WITH THE RAILROAD

Effective: April 1, 2016 Revised: April 1, 2022

Special attention is brought to Section 100 of the "*Standard Specifications for Road and Bridge Construction*" regarding working with the Railroad and the authority of the Railroad Engineer as defined. The Contractor shall make themselves aware of all the rules and regulations the railroad may have regarding, but not limited to, working restrictions, safety training, safety procedures and flagger scheduling and call-off requirements. The Contractor shall also submit, to the Railroad, copies, for review and approval, any work plans that may directly impact the Railroad facilities. This submittal shall happen concurrently when submitting to the Department.

Responsibility for flagger costs shall be in accordance with Article 107.12 of the Standard Specifications. The cost to comply with any other requirements the Railroad may have in order to perform work on this project shall be considered included in the cost of the contract items and no additional compensation will be allowed.

Designer Note: Use on all contracts with earth excavation, furnished excavation, or borrow excavation. This was developed by Materials to eliminate potential for trapping water in porous layers of embankment.

EMBANKMENT (RESTRICTIONS)

Effective: January 21, 2005 Revised: August 5, 2022

Replace the sixth and seventh paragraphs of Article 205.04 with the following:

Alternating layers of suitable soil and restricted-use material will not be permitted. Restricted-use materials may only be incorporated into the embankment by using one of the following procedures:

a. Restricted-use materials shall be placed in 4" lifts and disked with the underlying lift material until a uniform and homogenous material is formed having more than 35% passing the number 200 sieve.

b. Sand, gravel or crushed stone embankment when placed on the existing ground surface will be drained using a 10' (3 m) by 10' (3 m) French drain consisting of nonwoven geotechnical fabric with 12" (0.3 m) of B-3 riprap. This shall be constructed on both sides of the embankment at the toe of the foreslope spaced 150' (46 m) apart. At locations requiring a French drain the 3' (1 m) cohesive cap shall not be installed within the 10' by 10' riprap area. If the Engineer determines that the existing ground is a granular free draining soil, the French drain may be deleted.

c. Sand, gravel or crushed stone embankment when placed on top of a cohesive embankment will be drained with a permanent 4" (100 mm) underdrain system. The underdrain system shall consist of a longitudinal underdrain on both sides of the embankment and transverse underdrains spaced at 250' (75 m) centers. The underdrain shall consist of a 2' (0.6 m) deep by 1' (0.3 m) wide trench, backfilled with FA4 sand and a 4" (100 mm) diameter underdrain. In addition, both sides of the embankment will have a 6" (150 mm) diameter pipe drain which will drain the underdrain system and outletted into a permanent drainage structure or outletted by a headwall at the toe of the embankment.

The above work will not be paid for separately but shall be included in the cost of EARTH EXCAVATION, FURNISHED EXCAVATION, or BORROW EXCAVATION.

Designer Note: Use when removing/replacing existing pavement or in cut sections. Assists in stabilizing subgrade areas. Contact Materials for the IBV value. It will most likely be "4".

SUBGRADE TREATMENT

Effective July 1, 1990 Revised January 1, 2022

Revise first sentence of first paragraph of Article 301.04 as follows:

> "When compacted, the subgrade shall have a minimum dry density of 95 percent of the standard laboratory dry density and a minimum immediate bearing value (IBV) of _____."

Delete the second paragraph (including subparagraphs a, b, and c) of Article 301.04 of the Standard Specifications and replace it with the following:

> "In cut sections the Contractor responsible for the rough grading shall obtain not less than 95% of the standard laboratory density and not more than 110% of the optimum moisture for the top 1' (300 mm) of the subgrade.
>
> The Contractor may, at his/her option, add a drying agent to lower the moisture content as specified. The drying agent must be approved by the Engineer prior to use. Additional compensation will not be allowed for the use of a drying agent but will be considered as included in the cost of the various earthwork items."

Designer Note: To compute quantities, use a rate of 5% by weight of soil for water. Check with Materials before using this special provision and the Soils Report for a % of modifier.

SOIL MODIFICATION

Effective: July 1, 1990 Revised: January 1, 2022

This work shall consist of the construction of a modified soil layer as described in Section 302 of the Standard Specifications, except as modified herein.

Revise Article 302.04 by adding:

> "The depth of treatment shall be based on proof rolling and soil strength (cone index). Proof rolling shall consist of running a loaded tandem truck over the subgrade."

Revise Article 302.08 by adding the following:

> "Mixing. The modifier, soil, and water (if necessary) shall be thoroughly blended by rotary speed mixers. The mixing shall continue until it has been determined by the Engineer that a homogeneous layer of the required thickness has been obtained. A disc harrow may be used to supplement the mixing by the rotary mixer."

Add to Article 302.10 Finishing:

> "After adequate compaction is obtained, no construction equipment will be permitted on the finished subgrade for a period of three (3) days, after which only equipment used for grading prior to placement of paving materials will be permitted."

Add to Article 302.09 Compaction:

> "A grader to shape the cross slope and smooth the tilled area shall be used prior to compaction."

Designer Note: This special provision requires a 12' wide milling machine. Check with Construction before using. This provision shall be used in lieu of either DSP 440.03B or Check Sheet #12 "Hot-Mix Asphalt Surface Correction." Intended for use on rural "SMART" and other types of extended length cold milling projects to develop a smooth pavement profile for resurfacing. Do not require on urban or intersection type projects. This special provision should be limited to jobs with more than 25,000 Sq. Yds. (20,000 Square Meters) of mainline milling.

The designer should check existing field conditions and as built plans to determine the existing overlay thickness is so that we can eliminate spalling of the bituminous surface that is to remain in place after the cold milling.

Discuss cleanup equipment with Construction, then insert the following: (a) For rural projects, a "mechanical broom" for cleanup is acceptable. (b) For urban projects. It is recommended to require use of a "self-propelled street sweeper with power vacuum capability". If (b) is used, then revise and underline the "cleanup" paragraph and put a revised date on the special provision.

This special as written covers the standard milling and resurfacing situations. If unusual circumstances such as grade correction, cross slope correction, etc. are to be performed, the special may need to be revised and a detail showing the treatment included in the plans.

**Designer shall insert thickness or range of thickness here.

HOT-MIX ASPHALT SURFACE REMOVAL, _____" (_____ MM)

Effective: March 1, 1993
Revised: January 1, 2022

Description: This work shall consist of removing a portion of the existing hot-mix asphalt concrete surface course in accordance with the applicable portions of Section 440 and 1101 of the Standard Specifications, this special provision, details in the plans and as directed by the Engineer. The cold milled salvaged aggregate resulting from this operation shall become the property of the Contractor.

Equipment: The machine used for milling and planing shall be a self-propelled grinding machine having a minimum 12' (3.6 m) wide drum at least 28" (710 mm) in diameter. When a milling width in excess of 12' is required and the Contractor's milling machine is less than the required width shown in the plans, the remaining area shall be milled with a machine capable of meeting the requirements of this special provision. Milling attachments used with skid steer tractors will not be allowed for longitudinal areas to mill additional widths.

When the teeth become worn so that they do not produce a uniform surface texture, they shall all be changed at the same time (as a unit). Occasionally, individual teeth may be changed if they lock up or break, but this method shall not be used to avoid changing the set of teeth as a unit. Occasional gouges, due to deteriorated pavement condition, or separation of lifts will not be cause to replace all teeth. The Engineer will be the sole judge of the cause of the pavement gouging and the corrective work required. Corrective work due to negligence or poor workmanship shall be at the Contractor's expense.

The moldboard is critical in obtaining the desired surface texture. It shall be straight, true, and free of excessive nicks or wear, and it shall be replaced as necessary to uniformly produce the

required surface texture. Gouging of the pavement by more than 1/4 inch (6 mm) shall be sufficient cause to require replacement of all teeth.

Add the following after the third sentence of Article 406.05 (c)(1):

"Vacuum sweeping shall be accomplished with a regenerative air sweeper."

Construction Requirements

General: Weather conditions, when milling work is performed, must be such that short term or temporary pavement markings can be placed the day the surface is milled in accordance with Section 703 "Work Zone Pavement Markings".

An automatic grade control device shall be used when milling mainline pavement and shall be capable of controlling the elevation of the drum relative to either a preset grade control stringline or a grade reference device traveling on the adjacent pavement surface. The automatic grade control device may be utilized only on one side of the machine with a automatic slope control device controlling the opposite side. The traveling grade reference device shall not be less than 30 feet (9 m) in length. When milling cross roads, turn lanes, intersections, crossovers, or other miscellaneous areas, the Engineer may permit the matching shoe. The Contractor, at his option, may also substitute an approved 6' wide (1.8 m) machine for areas other than mainline pavement.

The Contractor shall mill **_____ inch (_____ mm)** at the centerline and project the proposed cross slope to the edge of pavement. In the event the milling at the outer edge of the lane would exceed **_____ inches (_____ mm)**; then the Contractor shall reduce the cut at the centerline to provide the maximum cut of **_____ inches (_____ mm)** at the edge of pavement. If deemed necessary, the Contractor may reduce the cross slope from normal 1.5% to 1%.

Surface tests will be performed in accordance with Article 406.11 of the Standard Specifications. The longitudinal profile will be taken 3 ft. (0.9 m) from and parallel to each edge of pavement and 3 ft. (0.9 m) from and parallel to the centerline on each side. If a shadow area is found at the 3 ft. (0.9 m) points the pavement smoothness tester will be moved sufficient distance either side to measure the Contractor's milling efforts. Any surface variations exceeding the tolerance in Article 406.11 shall be corrected by reprofiling at no additional expense to the Department. In addition, the Contractor shall be responsible for refilling with approved hot-mix asphalt mixtures any area that lowered the pavement profile as a result of faulty milling operations if directed by the Engineer. The Contractor shall be responsible for providing the pavement smoothness tester described elsewhere to retest the pavement profile obtained.

If the milling depth is intended to expose the original concrete pavement, then additional hand or machine work may be necessary to remove any remaining veneer of bituminous pavement which may be left in place behind the milling machine. Such work will be at the direction of the Engineer and at no extra cost to the Department.

The Contractor shall provide a 10-foot (3 m) straightedge equipped with a carpenter's level or a 7-foot (2.1 m) electronic straightedge to check the cross slope of the roadway at regular intervals as directed by the Engineer.

Surface Texture: Each tooth on the cutting drum shall produce a series of discontinuous longitudinal striations. There shall be 16 to 20 striations (tooth marks) for each tooth for each 6 feet (1.8 m) in the longitudinal direction, and each striation shall be 1.7 inches ±0.2 inch (43 ±5 mm) in length after the area is planed by the moldboard. Thus, the planed length between each pair of striations shall be 2.3 inches ±0.2 inch (58 ±5 mm). There shall be 80 to

96 rows of discontinuous longitudinal striations for each 5 feet (1.5 m) in the transverse dimension. The areas between the striations in both the longitudinal and transverse directions shall be flat topped and coplaner. The moldboard shall be used to cut this plane; and any time the operation fails to produce this flat plane interspersed with a uniform pattern of discontinuous longitudinal striations, the operation shall be stopped and the cause determined and corrected before recommencing. Other similar patterns of uniform discontinuous longitudinal striations interspersed on a flat plane may be approved by the Engineer. The drawing titled "Hot-Mix Asphalt Surface Removal" showing the desired surface texture is included in the plans.

The start-up milling speed shall be limited to a maximum of 50-foot (15 m) per minute. The Contractor shall limit his operations to this speed to demonstrate his ability to obtain the striations and ride ability as described above. If the Contractor is able to demonstrate that he can consistently obtain the desired striations and ride ability at a greater speed he will be permitted to run at the increased speed.

Cleanup: After cold milling a traffic lane and before opening the lane to traffic, the pavement shall be swept by a **regenerative air sweeper** to prevent compaction of the cuttings onto the pavement. All loose material shall be removed from the roadway. Before the prime coat is placed, the pavement shall be cleaned of all foreign material to the satisfaction of the Engineer.

This cleanup work shall be considered included in the contract unit price per Square Meter (Square Yard) for HOT-MIX ASPHALT SURFACE REMOVAL of the depth specified, and no additional compensation will be allowed.

Method of Measurement:

(a) Contract Quantities. The requirements for the use of Contract Quantities shall be Article 202.07(a) of the Standard Specifications.

(b) Measured Quantities. Cold milling and planing will be measured and the area computed in Square Yards (Square Meters) of surface.

Areas not milled (shadowed areas) due to rutting in the existing pavement surface will be included in the area measured for payment.

Basis of Payment: The cold milling and planing will be paid for at the contract unit price per Square Yard (Square Meter) for HOT-MIX ASPHALT SURFACE REMOVAL of the depth specified. Payment as specified will include variations in depth of cuts due to rutting, superelevations, and pavement crown and no additional compensation will be allowed.

Designer Note: This special provision requires use of a 6' milling machine. Check with Construction before using. This provision shall be used instead of either DSP 440.03AD or Check Sheet #12 "Hot-Mix Asphalt Surface Correction." Intended for use on urban project or rural project with less than 25,000 Square Yards (20,000 Square Meters) of cold milling and is intended to develop a smooth pavement profile for resurfacing.

The designer should check existing field conditions and as built plans to determine the existing overlay thickness is so that we can eliminate spalling of the hot-mix asphalt surface that is to remain in place after the cold milling.

This special as written covers the standard milling and resurfacing situations. If unusual circumstances such as grade correction, cross slope correction, etc. are to be performed, the special may need to be revised and a detail showing the treatment included in the plans.

**Designer shall insert thickness or range of thickness here.

HOT-MIX ASPHALT SURFACE REMOVAL, _____" (_____ MM)

Effective: February 5, 1993
Revised: January 1, 2022

Description: This work shall consist of removing a portion of the existing hot-mix asphalt concrete surface course in accordance with the applicable portions of Section 440 and 1101 of the Standard Specifications, this special provision, details in the plans and as directed by the Engineer. The cold milled salvaged aggregate resulting from this operation shall become the property of the Contractor.

When the teeth become worn so that they do not produce a uniform surface texture, they shall all be changed at the same time (as a unit). Occasionally, individual teeth may be changed if they lock up or break, but this method shall not be used to avoid changing the set of teeth as a unit.

The moldboard is critical in obtaining the desired surface texture. It shall be straight, true, and free of excessive nicks or wear, and it shall be replaced as necessary to uniformly produce the required surface texture. Gouging of the pavement by more than 1/4 inch (6 mm) shall be sufficient cause to require replacement of all teeth. Occasional gouges, due to deteriorated pavement condition, or separation of lifts will not be cause to replace all teeth. The Engineer will be the sole judge of the cause of the pavement gouging and the corrective work required. Corrective work due to negligence or poor workmanship will be at the Contractor's expense.

Add the following after the third sentence of Article 406.05 (c)(1):

"Vacuum sweeping shall be accomplished with a regenerative air sweeper."

Construction Requirements

General: Weather conditions, when milling work is performed, must be such that short term or temporary pavement markings can be placed the day the surface is milled in accordance with Section 703 "Work Zone Pavement Markings."

An automatic grade control device shall be used when milling mainline pavement and shall be capable of controlling the elevation of the drum relative to either a preset grade control stringline or a grade reference device traveling on the adjacent pavement surface. The automatic grade control device may be utilized on only one side of the machine with an automatic slope control device controlling the opposite side. The traveling grade reference device shall not be less than 30 feet (9 m) in length for rural areas. For urban areas, a device not less than 20 feet (6 m) in length will be required. When milling cross roads, turn lanes, intersections, crossovers, or other miscellaneous areas, the Engineer may permit the use of a matching shoe.

The Contractor shall mill **_____ inch (_____ mm)** at the centerline and project the proposed cross slope to the edge of pavement. In the event the milling at the outer edge of the lane would exceed **_____ inch (_____ mm)**; then the Contractor shall reduce the cut at the centerline to provide the maximum cut of **_____ inch (_____ mm)** at the edge of pavement. If deemed necessary, the Contractor may reduce the cross slope from normal to 1.5% to 1%.

Surface tests will be performed according to Article 406.11 of the Standard Specifications. The profile will be taken 3 ft. (0.9 m) from and parallel to each edge of pavement and 3 ft. (0.9 m) from and parallel to the centerline on each side. If a shadow area is found at the 3 ft. (0.9 m) points, the pavement smoothness tester will be moved sufficient distance either side to measure the Contractor's milling efforts. If any (milled) surface variations found to be outside the tolerance of Article 406.11, then the roadway shall be reprofiled at no additional cost. In addition, the Contractor shall be responsible for refilling, with approved hot-mix asphalt mixtures, any area that lowered the pavement profile as a result of his faulty milling operations if directed by the Engineer. The Contractor shall be responsible for providing the pavement smoothness tester described elsewhere to retest the pavement profile obtained.

If the milling depth is intended to expose the original concrete pavement, then additional hand or machine work may be necessary to remove any remaining veneer of bituminous pavement which may be left in place behind the milling machine. Such work will be at the direction of the Engineer and at no extra cost to the State.

The Contractor shall provide a 10' (3 m) straightedge equipped with a carpenter's level or a 7' (2.1 m) electronic straightedge to check the cross slope of the roadway at regular intervals as directed by the Engineer.

Surface Texture: Each tooth on the cutting drum shall produce a series of discontinuous longitudinal striations. There shall be 16 to 20 striations (tooth marks) for each tooth for each 6' (1.8 m) in the longitudinal direction, and each striation shall be 1.7 inches ± 0.2 inch (43 ± 5 mm) in length after the area is planed by the moldboard. Thus, the planed length between each pair of striations shall be 2.3 inches ± 0.2 inch (58 ± 5 mm). There shall be 80 to 96 rows of discontinuous longitudinal striations for each 5' (1.5 m) in the transverse dimension. The areas between the striations in both the longitudinal and transverse directions shall be flat topped and coplaner. The moldboard shall be used to cut this plane; and any time the operation fails to produce this flat plane interspersed with a uniform pattern of discontinuous longitudinal striations, the operation shall be stopped and the cause determined and corrected before recommencing. Other similar patterns of uniform discontinuous longitudinal striations interspersed on a flat plane may be approved by the Engineer.

The startup milling speed shall be limited to a maximum of 50' (15 m) per minute. The Contractor shall limit his operations to this speed to demonstrate his ability to obtain the striations and rideability as described above. If the Contractor is able to demonstrate that he can consistently obtain the desired striations and rideability at a greater speed he will be permitted to run at the increased speed.

Cleanup: After cold milling a traffic lane and before opening the lane to traffic, the pavement shall be swept by a regenerative air sweeper to prevent compaction of the cuttings onto the pavement. All loose material shall be removed from the roadway. Before the prime coat is placed, the pavement shall be cleaned of all foreign material to the satisfaction of the Engineer.

This cleanup work shall be considered included in the contract unit price per Square Yard (Square Meter) for HOT-MIX ASPHALT SURFACE REMOVAL of the depth specified, and no additional compensation will be allowed.

Method of Measurement:

(a) Contract Quantities. The requirements for the use of Contract Quantities shall be Article 202.07(a) of the Standard Specifications.

(b) Measured Quantities. Cold milling and planing will be measured and the area computed in square yards (square meters) of surface.

Areas not milled (shadow areas) due to rutting in the existing pavement surface will be included in the area measured for payment.

Basis of Payment: The cold milling and planing will be paid for at the contract unit price per Square Yard (Square Meter) for HOT-MIX ASHPALT SURFACE REMOVAL of the depth specified. Payment as specified will include variations in depth of cuts due to rutting, superelevations, and pavement crown and no additional compensation will be allowed.

Designer Note: Insert into projects where the 6" wider milling is requested. Include quantities for the extra 6" of milling, tacking, and surface in your schedule of quantities.

HOT-MIX ASPHALT JOINT TRIMMING

Effective: August 5, 2022

When specified in the plans, unconfined hot mix asphalt (HMA) edges will be placed and trimmed per the following guidelines:

1. Place the HMA tack coat and HMA pavement/shoulder 6" wider than the designated lane line (centerline or edge of pavement).

2. When the joint is trimmed as an independent operation, mill the excess 6" of the unconfined HMA to the lane line. The milling equipment must be capable of producing a straight line. The depth of the milling must be controlled so as not to gouge the underlying lift. The intent is to create a vertical face at the lane line and provide a lateral confinement for the adjacent mat. Skid-steer mounted mills will not be allowed. Milling and cleaning must be done prior to tacking of the adjacent HMA paving. Milling the same day as HMA placement will not be allowed. If the Engineer determines excessive raveling of the milled face is occurring, the contractor shall make adjustments to the operation such as slowing the mill speed, replacing mill teeth, or adjustment of mill box side plates.

3. When the joint is trimmed as part of the adjacent mat milling, milling the same day as HMA placement will not be allowed. If the Engineer determines excessive raveling of the milled face is occurring, the contractor shall make adjustments to the operation such as slowing the mill speed, replacing mill teeth, or adjustment of mill box side plates.

4. Clean and prepare the surface of the adjacent mat as per Article 406.05 of the Standard Specification prior to the placement of the HMA. The HMA Tack Coat shall be sprayed the full width of the lane/shoulder and also lapped onto the adjacent mat a distance not to exceed 4". In addition, the vertical face of the adjacent mat shall be thoroughly tacked by means of a dedicated spray nozzle, mounted at a 45 degree angle, aimed toward the face.

5. Placement of this HMA mat shall require the use of a joint-matching device in lieu of a longitudinal averaging ski. The compacted height of this mat shall be exactly flush, or not more than 1/32" higher, to the adjacent mat to ensure the joint has sufficient material for adequate compaction. During placement, the side plate of the screed shall not exceed 1/2" overlap onto the adjacent mat.

When milled independently, the 6" extra width at the lane line will be paid for at the contract unit price per Square Yard for HOT-MIX ASPHALT SURFACE REMOVAL – SPECIAL. When milled with the adjacent mat, the 6" extra width at the lane line will be paid for at the contract unit price for HOT-MIX ASPHALT SURFACE REMOVAL of the depth specified. The extra HMA tack coat will be paid for at the contract unit price per Pound for the tack coat specified in the

plans. The extra trimmed HMA will be paid for at the contract unit price per Ton or Square Yard, as specified in the plans. All other extra work will not be paid for separately but shall be included in the unit bid price of the various pay items and no other compensation will be allowed.

Designer Note: Insert into any contracts with cast-in-place concrete that may require pumping such as: superstructure, piers, abutments, box culverts, headwalls, metal shell piles, concrete in inaccessible locations, etc.

PCC PLACEMENT BY PUMP REQUIREMENTS

Effective: January 1, 2022

These provisions are required for concrete structures and drilled shaft construction.

Revise the 7th paragraph of Article 503.07 to read:

"When air entrained concrete is pumped, a reduction hose at point of placement will be utilized. In addition, the pump shall be operated with sufficient minimum pressure and flow rate to create a steady stream of material at the point of placement. The maximum allowable air loss caused by the pumping operation shall be 3.0 percent with the minimum air content at the point of discharge meeting the requirements of Article 1020.04. The initial air test utilized to determine the air content correction factor shall not be conducted within the confines of the pour. A pneumatic or mechanical shut-off device shall be incorporated in the pump apparatus as close as practical to point of placement; the device shall be utilized to maintain a full surcharge of material in the pump during pump stoppage."

Revise the 4th paragraph of Article 503.08 to read:

"At the Contractor's option, pumping equipment may be used in lieu of a tremie to deposit concrete underwater. The Engineer will approve the concrete pumping equipment and its piping before the work is started. If pumping equipment is used to deliver concrete to a tremie and hopper, a reduction hose at point of placement will be utilized. In addition, the pump shall be operated with sufficient minimum pressure and flow rate to create a steady stream of material at the point of placement. The maximum allowable air loss caused by the pumping operation shall be 3.0 percent with the minimum air content at the point of discharge meeting the requirements of Article 1020.04. The initial air test utilized to determine the air content correction factor shall not be conducted within the confines of the pour. A pneumatic or mechanical shut-off device shall be incorporated in the pump apparatus as close as practical to point of placement; the device shall be utilized to maintain a full surcharge of material in the pump during pump stoppage."

88602 886.02

Designer Note: Use when full depth patching or partial depth patching through intersections utilizing detector loops to trigger signal changes. Contact Operations (Eric Howald) to verify if loops are present and if this special shall be included. The intent is to avoid damaging the loops and not having to replace them when just performing a patching project. There are two fill-ins to be addressed. The first is for listing locations with loops. The second is for listing locations using cameras.

MISCELLANEOUS ELECTRICAL WORK

Effective: August 5, 2022

The Contractor shall perform the following items:

Location of Existing Detector Loops, Lead-In, and Loop Risers

A minimum of seventy-two hours prior to milling operations, the Contractor shall hire a qualified electrical contractor to locate all of the existing detector loops, lead-ins, and detector loop conduit risers along _____
_____
_____. The Contractor shall mark the locations of all existing facilities on the pavement and discuss these locations with the Resident Engineer so that accommodations can be made to adjust the depth of roto-milling operations at these locations to prevent the existing detector loops from being damaged.

The Contractor shall examine each traffic signal cabinet and make an inventory of the existing detector loops prior to locating to ensure that all of the existing detector loop facilities are located.

The intersections at _____
_____
_____
are equipped with video detection and do not require locating.

The Contractor may request plans for the intersections from the Department, if plans are available.

The Contractor shall verify all field conditions prior to bidding. There will be no additional compensation for this work.

Basis of Payment: This work will be paid for at the contract unit price per Lump Sum for MISCELLANEOUS ELECTRICAL WORK and shall be payment in full for all labor, materials, and equipment required to locate and mark the existing detector loop facilities as described above, complete.

Designer Note: Insert into any project with Concrete Pavement pay items.

PCC SLIPFORM PAVING AGGREGATE OPTIMIZATION

Effective: August 3, 2012 Revised: January 1, 2022

Delete Note 7/ of Article 1004.01(c) and replace Article 1004.02(d)(1) with the following:

For the slipform paving of concrete pavement, the Class PV concrete shall be uniformly graded. This may be accomplished by using a uniformly graded single coarse aggregate, or by blending two or more coarse aggregate sizes. As a minimum for multiple coarse aggregate sizes, CA 7 or CA 11 shall be blended with CA 13, CA 14, or CA 16. The final single coarse aggregate or combined coarse aggregate gradation shall have minimum 45 percent and maximum 60 percent passing the 1/2 in. (12.5 mm) sieve. However, the Contractor may propose for approval by the Engineer an alternate uniformly graded concrete mixture using the information in the "Portland Cement Concrete Level III Technician Course – Manual of Instructions for Design of Concrete Mixtures".

Designer Note: Insert into all new construction bridge projects involving the Concrete Superstructure and Concrete Wearing Surface pay items.

PCC SUPERSTRUCTURE AGGREGATE OPTIMIZATION

Effective August 4, 2006 Revised January 1, 2022

Delete Note 7/ of Article 1004.01(c) and replace Article 1004.02(d)(1) with the following:

For the bridge superstructure and bridge approach slab, the Class BS concrete shall be uniformly graded.

This may be accomplished by using a uniformly graded single coarse aggregate, or by blending two or more coarse aggregate sizes. As a minimum for multiple coarse aggregate sizes, CA 7 or CA 11 shall be blended with CA 13, CA 14, or CA 16. The final single coarse aggregate or combined coarse aggregate gradation shall have minimum 45 percent and maximum 60 percent passing the 1/2 in. (12.5 mm) sieve. However, the Contractor may propose for approval by the Engineer an alternate uniformly graded concrete mixture using the information in the "Portland Cement Concrete Level III Technician Course – Manual of Instructions for Design of Concrete Mixtures".

For bridge decks and bridge approach slabs, the as-placed water cement ratio shall be between 0.39 and 0.41. The coarse aggregate shall be listed on the Department's Bureau of Materials and Physical Research "Freeze Thaw Rating List".

Concrete Superstructures Aggregate Optimization will not be paid for separately but shall be considered as included in the unit cost of CONCRETE SUPERSTRUCTURES.

Designer Note: Insert into all contracts with PCC items.

PCC QMP ELECTRONIC REPORT SUBMITTALS

Effective January 13, 2022

The Contractor's QC personnel shall be responsible for electronically submitting the following reports to the Department: PRO and IND data for BMPR MI654 "Air, Slump, & Quantity"; PRO data for BMPR MI655 "PCC Strength"; and PRO data for BMPR MI504 "Field/Lab Gradation". The format for the electronic submittals will be the "QMP" reporting program which will be provided by the Department. Microsoft Office 2007 or newer is required for this program which must be provided by the Contractor.

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Section 200

Effective 8-5-22

Designer Note: Include this General Note in all projects with a bat caused tree removal restriction.

TREE REMOVAL RESTRICTIONS

Due to the potential presence of endangered bats, no tree removal will be allowed on this project between April 1st and September 30th.

Section 400

Effective: October 23, 2006
Revised: January 1, 2022

Designer Note: This General Note should be added to all contract plans using Hot-Mix Asphalt.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

Consult the District Mixtures Control Engineer for guidance in choosing hot-mix asphalt mixture types to use for your specific project. See Materials mixture requirements. Don't forget to fill in the MTD right-of-way with a "Yes" or "No". This should match your QNOS Table for the MTD.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

The following mixture requirements are applicable for this project:

Mixture Use(s):	
AC/PG:	
Design Air Voids:	
Mixture Composition (Gradation Mixture):	
Friction Aggregate:	
Quality Management:	
Material Transfer Device	Yes or No

Notes:

1) Individual lift thicknesses of each mix will be no less than three (3) times nominal maximum aggregate size and no more than five (5) times nominal aggregate maximum size, unless otherwise approved by the Engineer.

2) For design purposes, mixture weight for all mixes is determined to be 112.0 lb./sq. yard/in., unless otherwise noted.

3) Sublot sizes for PFP and QCP mixes will be 1,000 tons, unless otherwise agreed to by the Engineer and the paving Contractor.