

# 116

**Letting March 5, 2021**

## **Notice to Bidders, Specifications and Proposal**



**Contract No. 85710  
LEE County  
Section 20-00344-00-RS  
Route FAS 177 (Shaw Road)  
Project 9T32-510 ()  
District 2 Construction Funds**

PLANS INCLUDED  
HEREIN

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. March 5, 2021 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 85710  
LEE County  
Section 20-00344-00-RS  
Project 9T32-510 ()  
Route FAS 177 (Shaw Road)  
District 2 Construction Funds**

**Cold-In-Place Recycling with HMA overlay on Shaw Road from Brooklyn to IL 251.**

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.  
  
(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to re-advertise the proposed improvement, and to waive technicalities.

By Order of the  
Illinois Department of Transportation

Omer Osman,  
Acting Secretary

INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2021

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 4-1-16) (Revised 1-1-21)

SUPPLEMENTAL SPECIFICATIONS

| <u>Std. Spec. Sec.</u>  | <u>Page No.</u> |
|---|-----------------|
| 106 Control of Materials .....  | 1               |
| 107 Legal Regulations and Responsibility to Public .....  | 2               |
| 109 Measurement and Payment .....   | 3               |
| 205 Embankment .....  | 4               |
| 403 Bituminous Surface Treatment (Class A-1, A-2, A-3) .....  | 5               |
| 404 Micro-Surfacing and Slurry Sealing .....  | 6               |
| 405 Cape Seal .....   | 17              |
| 406 Hot-Mix Asphalt Binder and Surface Course .....   | 27              |
| 420 Portland Cement Concrete Pavement .....   | 28              |
| 424 Portland Cement Concrete Sidewalk .....   | 30              |
| 442 Pavement Patching .....   | 31              |
| 502 Excavation for Structures .....   | 32              |
| 503 Concrete Structures .....   | 35              |
| 504 Precast Concrete Structures .....   | 38              |
| 505 Steel Structures .....  | 40              |
| 506 Cleaning and Painting New Steel Structures .....  | 41              |
| 511 Slope Wall .....  | 42              |
| 522 Retaining Walls .....   | 44              |
| 542 Pipe Culverts .....   | 45              |
| 586 Sand Backfill for Vaulted Abutments .....   | 46              |
| 602 Catch Basin, Manhole, Inlet, Drainage Structure, and Valve Vault Construction, Adjustment, and Reconstruction ..... | 48              |
| 603 Adjusting Frames and Grates of Drainage and Utility Structures .....  | 49              |
| 630 Steel Plate Beam Guardrail .....  | 50              |
| 631 Traffic Barrier Terminals .....   | 53              |
| 670 Engineer's Field Office and Laboratory .....  | 54              |
| 701 Work Zone Traffic Control and Protection .....  | 55              |
| 704 Temporary Concrete Barrier .....  | 58              |
| 780 Pavement Striping .....   | 60              |
| 781 Raised Reflective Pavement Markers .....  | 61              |
| 783 Pavement Marking and Marker Removal .....   | 62              |
| 888 Pedestrian Push-Button.....   | 64              |
| 1001 Cement .....   | 65              |
| 1003 Fine Aggregates .....  | 66              |
| 1004 Coarse Aggregates .....  | 67              |
| 1006 Metals .....   | 70              |
| 1008 Structural Steel Coatings .....  | 73              |
| 1020 Portland Cement Concrete .....   | 77              |
| 1043 Adjusting Rings .....  | 79              |
| 1050 Poured Joint Sealers .....   | 81              |
| 1069 Pole and Tower .....   | 83              |
| 1077 Post and Foundation .....  | 84              |
| 1083 Elastomeric Bearings .....   | 85              |
| 1095 Pavement Markings .....  | 86              |
| 1096 Pavement Markers .....   | 87              |
| 1101 General Equipment .....  | 88              |
| 1102 Hot-Mix Asphalt Equipment .....  | 89              |
| 1103 Portland Cement Concrete Equipment .....   | 91              |
| 1105 Pavement Marking Equipment .....   | 93              |
| 1106 Work Zone Traffic Control Devices .....  | 95              |

RECURRING SPECIAL PROVISIONS

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

| <u>CHECK SHEET #</u> |   |  | <u>PAGE NO.</u> |
|----------------------|---|--|-----------------|
| 1                    | X | Additional State Requirements for Federal-Aid Construction Contracts ..... | 97              |
| 2                    | X | Subletting of Contracts (Federal-Aid Contracts) .....                      | 100             |
| 3                    | X | EEO .....  | 101             |
| 4                    |   | Specific EEO Responsibilities Non Federal-Aid Contracts .....              | 111             |
| 5                    |   | Required Provisions - State Contracts .....                                | 116             |
| 6                    |   | Asbestos Bearing Pad Removal .....   | 122             |
| 7                    |   | Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal .....     | 123             |
| 8                    |   | Temporary Stream Crossings and In-Stream Work Pads .....                   | 124             |
| 9                    |   | Construction Layout Stakes Except for Bridges .....                        | 125             |
| 10                   |   | Construction Layout Stakes .....   | 128             |
| 11                   |   | Use of Geotextile Fabric for Railroad Crossing .....                       | 131             |
| 12                   |   | Subsealing of Concrete Pavements .....                                     | 133             |
| 13                   |   | Hot-Mix Asphalt Surface Correction .....                                   | 137             |
| 14                   |   | Pavement and Shoulder Resurfacing .....                                    | 139             |
| 15                   |   | Patching with Hot-Mix Asphalt Overlay Removal .....                        | 140             |
| 16                   |   | Polymer Concrete .....   | 142             |
| 17                   |   | PVC Pipeliner .....  | 144             |
| 18                   |   | Bicycle Racks .....  | 145             |
| 19                   |   | Temporary Portable Bridge Traffic Signals .....                            | 147             |
| 20                   |   | Reserved .....   | 149             |
| 21                   |   | Nighttime Inspection of Roadway Lighting .....                             | 150             |
| 22                   |   | English Substitution of Metric Bolts .....                                 | 151             |
| 23                   |   | Calcium Chloride Accelerator for Portland Cement Concrete .....            | 152             |
| 24                   |   | Quality Control of Concrete Mixtures at the Plant .....                    | 153             |
| 25                   |   | Quality Control/Quality Assurance of Concrete Mixtures .....               | 161             |
| 26                   |   | Digital Terrain Modeling for Earthwork Calculations .....                  | 177             |
| 27                   |   | Reserved .....   | 179             |
| 28                   |   | Preventive Maintenance – Bituminous Surface Treatment (A-1) .....          | 180             |
| 29                   |   | Reserved .....   | 186             |
| 30                   |   | Reserved .....   | 187             |
| 31                   |   | Reserved .....   | 188             |
| 32                   |   | Temporary Raised Pavement Markers .....                                    | 189             |
| 33                   |   | Restoring Bridge Approach Pavements Using High-Density Foam .....          | 190             |
| 34                   |   | Portland Cement Concrete Inlay or Overlay .....                            | 193             |
| 35                   |   | Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching .....      | 197             |
| 36                   |   | Longitudinal Joint and Crack Patching .....                                | 200             |
| 37                   |   | Concrete Mix Design – Department Provided .....                            | 202             |

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

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

| <u>CHECK SHEET #</u> |  | <u>PAGE NO.</u> |
|----------------------|--|-----------------|
| LRS1                 | Reserved .....   | 204             |
| LRS2                 | Furnished Excavation .....                                       | 205             |
| LRS3                 | X Work Zone Traffic Control Surveillance .....                   | 206             |
| LRS4                 | X Flaggers in Work Zones .....                                   | 207             |
| LRS5                 | Contract Claims .....  | 208             |
| LRS6                 | Bidding Requirements and Conditions for Contract Proposals ..... | 209             |
| LRS7                 | Bidding Requirements and Conditions for Material Proposals ..... | 215             |
| LRS8                 | Reserved .....   | 221             |
| LRS9                 | Bituminous Surface Treatments .....                              | 222             |
| LRS10                | Reserved .....   | 223             |
| LRS11                | Employment Practices .....                                       | 224             |
| LRS12                | Wages of Employees on Public Works .....                         | 226             |
| LRS13                | Selection of Labor .....   | 228             |
| LRS14                | Paving Brick and Concrete Paver Pavements and Sidewalks .....    | 229             |
| LRS15                | Partial Payments .....   | 232             |
| LRS16                | Protests on Local Lettings .....                                 | 233             |
| LRS17                | Substance Abuse Prevention Program .....                         | 234             |
| LRS18                | Multigrade Cold Mix Asphalt .....                                | 235             |

**LEE COUNTY  
SECTION 20-00344-00-RS  
FAS 177 (SHAW ROAD)  
JOB # C92-038-20  
PROJECT # 9T32(510)  
CONTRACT # 85710**

**INDEX OF SPECIAL PROVISIONS**

| <b>ITEM</b>  | <b>PAGE</b> |
|--|-------------|
| Description of Work                                  | 1           |
| Cold in Place Recycled HMA with Foamed Asphalt       | 1           |
| Road Crown   | 1           |
| Surface Profile Milling                              | 1           |
| Preparation of Existing Surfaces                     | 1           |
| Butt Joints  | 2           |
| Bituminous Materials (Tack Coat)                     | 2           |
| Crown Correction                                     | 2           |
| Short Term Pavement Marking                          | 2           |
| Aggregate Shoulders                                  | 2           |
| Final Pavement Marking                               | 2           |
| Traffic Control and Protection                       | 2-3         |
| LR 107-4 Insurance                                   | 4           |
| LR 400-6 Cold-in-Place Recycling with Foamed Asphalt | 5           |
| LR 400-8 Pulverization                               | 14          |
| LR 403-1 Surface Profile Milling Flexible Pavement   | 17          |
| LR 702 Construction & Maintenance Signs              | 19          |
| LR 1000-2 CIP Recycling                              | 20          |

## BDE SPECIAL PROVISIONS

The following special provisions indicated by an "X" are applicable to this contract. An \* indicates a new or revised special provision for the letting.

| <u>File Name</u> | <u>Pg.</u> |   | <u>Special Provision Title</u>  | <u>Effective</u> | <u>Revised</u> |
|------------------|------------|---|---|------------------|----------------|
| 80099            |            |   | Accessible Pedestrian Signals (APS)   | April 1, 2003    | April 1, 2020  |
| 80274            |            |   | Aggregate Subgrade Improvement  | April 1, 2012    | April 1, 2016  |
| 80192            |            |   | Automated Flagger Assistance Device   | Jan. 1, 2008     |                |
| 80173            |            |   | Bituminous Materials Cost Adjustments   | Nov. 2, 2006     | Aug. 1, 2017   |
| 80246            |            |   | Bituminous Surface Treatment with Fog Seal  | Jan. 1, 2020     |                |
| 80241            |            |   | Bridge Demolition Debris  | July 1, 2009     |                |
| 50261            |            |   | Building Removal-Case I (Non-Friable and Friable Asbestos)  | Sept. 1, 1990    | April 1, 2010  |
| 50481            |            |   | Building Removal-Case II (Non-Friable Asbestos)   | Sept. 1, 1990    | April 1, 2010  |
| 50491            |            |   | Building Removal-Case III (Friable Asbestos)  | Sept. 1, 1990    | April 1, 2010  |
| 50531            |            |   | Building Removal-Case IV (No Asbestos)  | Sept. 1, 1990    | April 1, 2010  |
| * 80425          |            |   | Cape Seal   | Jan. 1, 2020     | Jan. 1, 2021   |
| 80384            | 27         | X | Compensable Delay Costs   | June 2, 2017     | April 1, 2019  |
| 80198            |            |   | Completion Date (via calendar days)   | April 1, 2008    |                |
| 80199            |            |   | Completion Date (via calendar days) Plus Working Days   | April 1, 2008    |                |
| 80293            |            |   | Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet                           | April 1, 2012    | July 1, 2016   |
| 80311            |            |   | Concrete End Sections for Pipe Culverts   | Jan. 1, 2013     | April 1, 2016  |
| 80261            |            |   | Construction Air Quality – Diesel Retrofit  | June 1, 2010     | Nov. 1, 2014   |
| 80387            |            |   | Contrast Preformed Plastic Pavement Marking   | Nov. 1, 2017     |                |
| * 80434          |            |   | Corrugated Plastic Pipe (Culvert and Storm Sewer)   | Jan. 1, 2021     |                |
| 80029            | 31         | X | Disadvantaged Business Enterprise Participation   | Sept. 1, 2000    | Mar. 2, 2019   |
| 80402            | 41         | X | Disposal Fees   | Nov. 1, 2018     |                |
| 80378            |            |   | Dowel Bar Inserter  | Jan. 1, 2017     | Jan. 1, 2018   |
| 80421            |            |   | Electric Service Installation   | Jan. 1, 2020     |                |
| 80415            | 43         | X | Emulsified Asphalts   | Aug. 1, 2019     |                |
| 80423            |            |   | Engineer's Field Office Laboratory  | Jan. 1, 2020     |                |
| 80229            |            |   | Fuel Cost Adjustment  | April 1, 2009    | Aug. 1, 2017   |
| 80417            |            |   | Geotechnical Fabric for Pipe Underdrains and French Drains  | Nov. 1, 2019     |                |
| 80420            |            |   | Geotextile Retaining Walls  | Nov. 1, 2019     |                |
| * 80433          |            |   | Green Preformed Thermoplastic Pavement Markings   | Jan. 1, 2021     |                |
| 80304            |            |   | Grooving for Recessed Pavement Markings   | Nov. 1, 2012     | Nov. 1, 2020   |
| 80422            |            |   | High Tension Cable Median Barrier   | Jan. 1, 2020     | Nov. 1, 2020   |
| 80416            | 46         | X | Hot-Mix Asphalt – Binder and Surface Course   | July 2, 2019     | Nov. 1, 2019   |
| 80398            |            |   | Hot-Mix Asphalt – Longitudinal Joint Sealant  | Aug. 1, 2018     | Nov. 1, 2019   |
| * 80406          |            |   | Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT Data Collection) | Jan. 1, 2019     | Jan. 2, 2021   |
| 80347            |            |   | Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling              | Nov. 1, 2014     | July 2, 2019   |
| 80383            |            |   | Hot-Mix Asphalt – Quality Control for Performance   | April 1, 2017    | July 2, 2019   |
| 80411            |            |   | Luminaires, LED   | April 1, 2019    |                |
| 80393            |            |   | Manholes, Valve Vaults, and Flat Slab Tops  | Jan. 1, 2018     | Mar. 1, 2019   |
| 80045            |            |   | Material Transfer Device  | June 15, 1999    | Aug. 1, 2014   |
| 80418            |            |   | Mechanically Stabilized Earth Retaining Walls   | Nov. 1, 2019     | Nov. 1, 2020   |
| * 80424          |            |   | Micro-Surfacing and Slurry Sealing  | Jan. 1, 2020     | Jan. 1, 2021   |
| 80428            | 53         | X | Mobilization  | April 1, 2020    |                |
| 80412            |            |   | Obstruction Warning Luminaires, LED   | Aug. 1, 2019     |                |
| 80430            |            |   | Portland Cement Concrete – Haul Time  | July 1, 2020     |                |
| 80359            |            |   | Portland Cement Concrete Bridge Deck Curing   | April 1, 2015    | Nov. 1, 2019   |
| 80431            |            |   | Portland Cement Concrete Pavement Patching  | July 1, 2020     |                |
| 80432            |            |   | Portland Cement Concrete Pavement Placement   | July 1, 2020     |                |
| 80300            |            |   | Preformed Plastic Pavement Marking Type D - Inlaid  | April 1, 2012    | April 1, 2016  |

| <u>File Name</u> | <u>Pg.</u> |   | <u>Special Provision Title</u>   | <u>Effective</u> | <u>Revised</u> |
|------------------|------------|---|--|------------------|----------------|
| 34261            |            |   | Railroad Protective Liability Insurance                                  | Dec. 1, 1986     | Jan. 1, 2006   |
| 80157            |            |   | Railroad Protective Liability Insurance (5 and 10)                       | Jan. 1, 2006     |                |
| * 80306          | 54         | X | Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)    | Nov. 1, 2012     | Jan. 2, 2021   |
| 80407            | 64         | X | Removal and Disposal of Regulated Substances                             | Jan. 1, 2019     | Jan. 1, 2020   |
| 80419            |            |   | Silt Fence, Inlet Filters, Ground Stabilization and Riprap Filter Fabric | Nov. 1, 2019     | April 1, 2020  |
| 80395            |            |   | Sloped Metal End Section for Pipe Culverts                               | Jan. 1, 2018     |                |
| 80340            |            |   | Speed Display Trailer  | April 2, 2014    | Jan. 1, 2017   |
| 80127            |            |   | Steel Cost Adjustment  | April 2, 2014    | Aug. 1, 2017   |
| 80408            |            |   | Steel Plate Beam Guardrail Manufacturing                                 | Jan. 1, 2019     |                |
| 80413            |            |   | Structural Timber  | Aug. 1, 2019     |                |
| 80397            | 75         | X | Subcontractor and DBE Payment Reporting                                  | April 2, 2018    |                |
| 80391            | 76         | X | Subcontractor Mobilization Payments                                      | Nov. 2, 2017     | April 1, 2019  |
| * 80435          |            |   | Surface Testing of Pavements – IRI                                       | Jan. 1, 2021     |                |
| 80298            |            |   | Temporary Pavement Marking   | April 1, 2012    | April 1, 2017  |
| 80409            | 77         | X | Traffic Control Devices – Cones  | Jan. 1, 2019     |                |
| 80410            |            |   | Traffic Spotters   | Jan. 1, 2019     |                |
| 20338            |            |   | Training Special Provisions  | Oct. 15, 1975    |                |
| 80318            |            |   | Traversable Pipe Grate for Concrete End Sections                         | Jan. 1, 2013     | Jan. 1, 2018   |
| 80429            |            |   | Ultra-Thin Bonded Wearing Course   | April 1, 2020    |                |
| 80288            |            |   | Warm Mix Asphalt   | Jan. 1, 2012     | April 1, 2016  |
| 80302            | 78         | X | Weekly DBE Trucking Reports  | June 2, 2012     | April 2, 2015  |
| 80414            |            |   | Wood Fence Sight Screen  | Aug. 1, 2019     | April 1, 2020  |
| 80427            | 79         | X | Work Zone Traffic Control Devices  | Mar. 2, 2020     |                |
| 80071            | 81         | X | Working Days   | Jan. 1, 2002     |                |

The following special provisions are in the 2021 Supplemental Specifications and Recurring Special Provisions.

| <u>File Name</u> | <u>Special Provision Title</u>            | <u>New Location(s)</u>                            | <u>Effective</u> | <u>Revised</u> |
|------------------|---|---|------------------|----------------|
| 80277            | Concrete Mix Design – Department Provided | Check Sheet #37                                   | Jan. 1, 2012     | April 1, 2016  |
| 80405            | Elastomeric Bearings                      | Article 1083.01                                   | Jan. 1, 2019     |                |
| 80388            | Equipment Parking and Storage             | Article 701.11                                    | Nov. 1, 2017     |                |
| 80165            | Moisture Cured Urethane Paint System      | Article 1008.06                                   | Nov. 1, 2006     | Jan. 1, 2010   |
| 80349            | Pavement Marking Blackout Tape            | Articles 701.04, 701.19(f), 701.20(j) and 1095.06 | Nov. 1, 2014     | April 1, 2016  |
| 80371            | Pavement Marking Removal                  | Articles 783.02-783.04, 783.06 and 1101.13        | July 1, 2016     |                |
| 80389            | Portland Cement Concrete                  | Article 1020.04 Table 1 and Note 4                | Nov. 1, 2017     |                |
| 80403            | Traffic Barrier Terminal, Type 1 Special  | Articles 631.04 and 631.12                        | Nov. 1, 2018     |                |

The following special provisions have been deleted from use.

| <u>File Name</u> | <u>Special Provision Title</u>              | <u>Effective</u> | <u>Revised</u> |
|------------------|---|------------------|----------------|
| 80317            | Surface Testing of Hot-Mix Asphalt Overlays | Jan 1, 2013      | Aug. 1, 2019   |





The following 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 of Materials" in effect on the date of invitation of bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included here in which apply to and govern the construction of **SECTION 20-00344-00-RS, Lee County**, and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

**DESCRIPTION OF WORK:**

The work on this contract consists of furnishing all labor, material, and equipment necessary to perform cold in place recycled hot-mix asphalt base and HMA overlay on Shaw Road between Brooklyn Road and IL 251.

**COLD IN PLACE RECYCLED HMA with FOAMED ASPHALT**

Description: This work shall consist of cold milling and pulverizing the existing bituminous material to 4" depth and injecting foamed asphalt into the milled material. The milling and pulverized base shall be the full width of the existing HMA pavement. A 22 foot wide 1.5" HMA overlay shall be placed on the recycled base. The contractor shall follow the specifications in LR 400-5, LR 400-8, LR 403-1 and LR 1000-1.

Materials: A mix design will be provided by the LEE COUNTY HIGHWAY DEPARTMENT to the awarded bidder. The Contractor is NOT responsible for producing their own mix design. However, the contractor may produce their own mix design at no additional cost to the HIGHWAY DEPARTMENT.

Method of Payment:

The above mentioned work shall be paid for per contract unit price per Square Yard for 4" CIR RECYCLING and CIR-FOAMED ASPHALT.

**ROAD CROWN**

The road crown shall be 2.0% or as directed by the Engineer. Should the contractor find an area where the crown cannot be met, they shall bring it to the attention of the Engineer who will determine what course of action should be taken. Any costs related to the profiling the crown shall be incidental to the contract.

**SURFACE PROFILE MILLING:**

The purpose of this work is to provide a smooth CIR subbase for the proposed Hot Mix Asphalt paving. The completed 4 inch CIR subbase shall be free of any irregularities or high spots, with uniform cross-slopes, as proposed by the plans. The Engineer will identify any areas that require corrections, once the Cold In-Place Recycling is completed. These irregularities shall be milled off to the satisfaction of the Engineer. The Hot Mix Asphalt paving shall not commence until the subbase is approved by the Engineer.

Method of Payment:

This work shall be paid for at the contract unit price per Square Yard for SURFACE PROFILE MILLING, which price shall include all equipment, labor and transportation of the removed material as described herein, and no additional compensation shall be allowed.

**PREPARATION OF EXISTING SURFACES:**

All existing bituminous surfaces that have not been cold in place recycled, shall be swept free and cleaned of all loose material, dirt, and debris prior to applying the prime coat. This preparation shall be incidental to the contract. No additional compensation will be made for this activity.

**BUTT JOINTS:**

Butt Joints shall be cut at the project ends, and at the ends of the paved bituminous segments. The joint shall be cut at this location and cleaned back a minimum of 20 feet, tapering from (1) inches at the joint to (0) inches the full width of the road. In addition, butt joints shall be cut at all bituminous and concrete driveways and side roads at the Right of Way Line and cleaned back to a minimum of 10 feet, tapering from (1) inch at the joint to (0) inches, the full width of the driveway or side road. All equipment, materials and labor required to complete this process shall be considered incidental to HMA SC Mix "C" N50. This shall include the disposal of any removed material. **Joints shall not be cut more than 2 working days prior to placement of the Hot Mix Asphalt** unless otherwise approved by the Engineer. Bump signs shall be placed once the joints are cut. No additional compensation will be allowed

**BITUMINOUS MATERIALS (TACK COAT):**

All existing bituminous surfaces shall be primed at a rate of 0.05 Pound per square foot with SS-1 unless otherwise directed by the Engineer. Tack coat used shall be paid for at the contract unit price bid per Pound for BITUMINOUS MATERIALS (TACK COAT).

**CROWN CORRECTION**

Crown Correction has been included in the estimated quantities of HMA in this contract at the rate of 10 LB/SY. It shall only be used as needed to correct the road's crown, fill in depressions in the CIR base, and/or as directed by the Engineer. Unless directed by the Engineer, crown correction shall not to be used to increase the overall asphalt thickness.

**SHORT TERM PAVEMENT MARKING:**

This work shall conform to Section 703 of the Standard Specifications for Road and Bridge Construction. Tape marking box ends with product lot numbers shall be furnished to the Resident Engineer. This work will be paid for at the contract unit price per Foot for SHORT TERM PAVEMENT MARKING. Removal of the Short Term Pavement Markings shall be paid for at the contract unit price per Square Foot for SHORT TERM PAVEMENT MARKING REMOVAL.

**AGGREGATE SHOULDERS:**

This work shall conform to Section 481 of the Standard Specifications for Road and Bridge Construction. The contractor shall install a 3 ft. wedge shoulder adjacent to the resurfacing. Any loose aggregate left on the new Hot Mix Asphalt surface must be broomed off. This work will be paid for at the contract unit price per Ton for AGGREGATE SHOULDERS, Type B. In addition, before pavement is placed, if determined to be needed by the Engineer, the contractor shall blade the existing shoulder stone up to the existing pavement edge. No additional compensation will be allowed for this work and shall be considered incidental to AGGREGATE SHOULDERS Type B.

**FINAL PAVEMENT MARKING:**

The final striping of the roadway will be furnished and applied by the Lee County Highway Department within 7 working days after the completion of the final surface course. This work will consist of removing the temporary striping and applying the final pavement marking. The contractor shall maintain the traffic control until the final striping is complete and will be given a 2 day's notice after the final striping is complete to remove all signs.

**TRAFFIC CONTROL AND PROTECTION:**

This work shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines contained in the National Manual on Uniform Traffic Control Devices, these special provisions, and any special details and Highway Standards contained herein and in the plans.

Special attention is called to Article 107.09 and 107.14 of the Standard Specifications for Road and Bridge Construction and the following Standards: 701006, 701011, 701301, 701306, 701311, 701901, 720011, 728001, 729001, BLR 21-9 and BLR 22-7. The cost of all traffic control and protection required by these special provisions and the standards included in this proposal shall be paid at the contract unit price Lump Sum for TRAFFIC CONTROL & PROTECTION.

During the cold in place recycling phase, the road shall be closed to all traffic. After the cold in place recycling is complete until the HMA surface is installed, only local traffic will be allowed on the road. "Road closed local traffic only" signs shall be placed at each end of the road section and at all side roads or as directed by the Engineer.

From the time that the HMA surface has been placed until the shoulder stone is installed, "Low Shoulder" signs shall be placed at maximum 1 mile intervals and at side roads for each direction of travel. In areas where only the pavement is uneven between lanes, the contractor shall also put "Uneven Lanes" signs at maximum 1 mile intervals or as directed by the Engineer.

**Signs:**

No bracing shall be allowed on post-mounted signs. The contractor is encouraged to apply IDOT's "2010 Quality Standard for Work Zone Traffic Control Devices" prior to delivery of the devices to the jobsite.

Signs shall be mounted on steel posts using standards 720011, 728001, 729001, or on 4"x 4" wood posts per Section 730 of the Standard Specifications for Road and Bridge Construction. Other "break away" connections can be used if accepted by the FHWA and a corresponding letter is provided to the Engineer.

"BUMP" (W8-1(O)48) signs shall be installed as directed by the Engineer.

"UNEVEN LANES" W8-11(O)48 signs shall be installed at 1 mile intervals or as directed by the Engineer.

"LOW SHOULDER" W8-9(O)48 signs shall be installed at 1 mile intervals or as directed by the Engineer.

"ROAD CLOSED, LOCAL TRAFFIC ONLY" (R-11-4) signs shall be installed as directed by the Engineer.

When covering existing Department signs, no tape shall be used on the reflective portion of the sign. Contact the District sign shop for covering techniques.

All regulatory signs shall be maintained at a 5 foot minimum bottom (rural), 7 foot minimum (urban).

Plate altering signs shall have the same sheeting as the base sign.

Any post stubs without a sign in place and visible shall have a reflector placed on each post.

**Devices:**

Cones or reflectors shall not be used during the hours of darkness.

A minimum of 3 drums spaced at 4 feet shall be placed at each return when the side road is open.

**Flaggers at Side roads and Commercial Entrances:**

Flaggers shall comply with all requirements contained in the Traffic Control Field Manual. The flagger equipment listed for flaggers employed by the Illinois Department of Transportation shall apply to all flaggers.

All workers and flaggers shall wear ANSI Class E pants and an ANSI Class 2 vest that in combination meet the requirements of ANSI/ISEA 107-2004 for Conspicuity Class 3 garments during hours of darkness.

In addition to the flaggers shown on the applicable standards, on major side roads flaggers shall be required on all legs of the intersections.

When the mainline flagger is within 200 feet of an intersection, the side road flagger shall be required.

When the road is closed to through traffic and it is necessary to provide access for local traffic, all flaggers as shown on the applicable standards will be required. No reduction in the number of flaggers shall be allowed.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
INSURANCE

Effective: February 1, 2007  
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

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The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
COLD IN-PLACE RECYCLING (CIR) WITH FOAMED ASPHALT

Effective: June 1, 2012  
Revised: January 4, 2019

All references to Divisions, Sections, and Articles in this Special Provision shall be construed to mean specific Divisions, Sections, and Articles in the Standard Specifications for Road and Bridge Construction adopted by the Department of Transportation.

**Description.** This work shall consist of cold milling and pulverizing the existing bituminous material to a specified depth and maximum size; mixing foamed asphalt, water, and additives with the recycled material; and spreading and compacting the mixture.

**Materials.** Materials shall be according to the following Articles of Division 1000 – Materials.

| <u>Item</u>                                   | <u>Article/Section</u> |
|---|------------------------|
| (a) Portland Cement (Note 1) .....            | 1001                   |
| (b) Water.....                                | 1002                   |
| (c) Fine Aggregate (Note 2) .....             | 1003                   |
| (d) Coarse Aggregate (Note 2).....            | 1004                   |
| (e) Fly Ash, Class C (Note 1) .....           | 1010.02                |
| (f) Lime (Note 1) .....                       | 1012                   |
| (g) Reclaimed Asphalt Pavement (Note 3) ..... | 1031                   |
| (h) Asphalt Binder (Note 4).....              | 1032.05                |
| (i) Cold Pulverized Material (Note 5)         |                        |
| (j) Mix Design (Note 6)                       |                        |

Note 1. If necessary, the mix design may require additional additives to increase fines in the mix. The type and allowable percentage will be described in the mix design.

Note 2. The mix design will specify gradation and quality of any additional aggregate. Any additional fine aggregate shall meet Class B quality as a minimum. Any additional coarse aggregate shall meet Class C quality as a minimum.

Note 3. The Engineer may allow reclaimed asphalt pavement (RAP) from Conglomerate “D” Quality or better RAP stockpiles as specified in Article 1031.02 or from millings of the existing highway. The RAP material shall not exceed the maximum size requirement of the cold pulverized material, and when blended with the cold pulverized material shall produce a product which meets the specifications of the mix design.

Note 4. The asphalt binder performance grade shall be determined by the mixture design but shall have a penetration between 80 dmm and 110 dmm. Throughout the job, the Contractor will need to check the foaming characteristics of the asphalt binder to insure that the asphalt binder is being adequately dispersed.

The asphalt binder shall be no less than 320 °F (160 °C) and no greater than 375 °F (190 °C) at the time of foaming.

Note 5. Prior to the addition of the foamed asphalt, the gradation of the cold pulverized material shall meet the following.

| COLD PULVERIZED MATERIAL GRADATIONS |                                |                  |
|-------------------------------------|--------------------------------|------------------|
| Grad No.                            | Sieve Size and Percent Passing |                  |
|                                     | 1 ½ in.<br>(37.5 mm)           | 1 in.<br>(25 mm) |
| PM 1                                | 100                            |                  |
| PM 2                                |                                | 100              |

PM 2 should only be used when a finer gradation of RAP is required by the mix design.

Note 6. A mix design for each distinct section shall be submitted to the Department prior to construction using actual materials (in-situ sampled by the Contractor and new materials from the Contractor's material suppliers) proposed for the project. The job mix formula shall meet the following criteria and be approved by the Engineer.

| CIR WITH FOAMED ASPHALT BINDER MIX DESIGN REQUIREMENTS  |   |
|---|---|
| Test Method   | CIR   |
| Gradation for Design Millings, AASHTO T 27  | Report  |
| Plasticity Index  | < 10  |
| Modified Proctor, ASTM D 1557, Method C   | Report  |
| Design Moisture Content   | Report  |
| Foamed Asphalt Expansion Ratio <sup>1</sup>   | 8 minimum   |
| Foamed Asphalt Half-life, s   | 6 minimum   |
| Optimum Foamant Water Content   | Report  |
| Marshall Density, AASHTO T 245 (IL Modified)  | 75 blows at 4 in. (100 mm)                                    |
| Bulk Specific Gravity (Density), ASTM D 6752 or ASTM D 2726   | Report  |
| Rice (Maximum Theoretical) Specific Gravity, ASTM D 2041  | Report  |
| Air Voids   | Report  |
| Raveling Test, 50 °F, %   | 2.0   |
| Indirect Tensile Strength, AASHTO T 283 (IL Modified),<br>Dry, psi<br>Wet (Conditioned), psi<br>Tensile Strength Ratio (TSR), % | 45 minimum<br>30 minimum<br>70                                |
| Additional Additive(s) <sup>2</sup><br>Coarse Aggregate<br>Fine Aggregate<br>RAP<br>Lime<br>Fly Ash<br>Cement, %                | Report<br>Report<br>Report<br>Report<br>Report<br>1.0 maximum |
| Asphalt Binder <sup>2</sup><br>PG Grade<br>Penetration, dmm   | Report<br>Report  |

Notes: 1. If the ambient temperature at the time of construction is expected to be 50 to 77 °F (10 to 25 °C) the foamed expansion ratio should be increased to 10.

2. Report shall include type/gradation and producer/supplier.

**Equipment.** Equipment shall be according to the following Articles of Division 1100 – Equipment.

| <u>Item</u>   | <u>Article/Section</u> |
|---|------------------------|
| (a) Self-Propelled Pneumatic-Tired Rollers (Note 1) ..... | 1101.01(c)             |
| (b) Steel Wheel Tandem Rollers .....                      | 1101.01(e)             |
| (c) Vibratory Roller (Note 2) .....                       | 1101.01(g)             |
| (d) Mechanical Sweeper .....                              | 1101.03                |
| (e) Self-Propelled Milling Machine.....                   | 1101.16(a)             |
| (f) Spreading and Finishing Machine .....                 | 1102.03                |
| (g) Dry Material Spreader (Note 3)                        |                        |
| (h) Multi-unit Recycling Train (Note 4, 6)                |                        |
| (i) Single-unit Recycler (Note 5, 6)                      |                        |
| (j) Pick Up Machine (Note 7)                              |                        |

Note 1. The self-propelled pneumatic-tired roller shall have a gross weight (mass) of not less than 25 tons (23 metric tons).

Note 2. The double drum vibratory rollers shall have a gross operating weight of not less than 10 tons (9 metric tons) and a width of 78 in. (1950 mm).

Note 3. When the mix design indicates the need of Type I Portland Cement; Fly Ash, Class C; or Lime; the Contractor must use a spreader that has the following specifications: a mechanical cement or fly ash spreader of a type that has an adjustable rate of flow and will distribute the cement uniformly at the required rate in one pass. Pneumatic distribution of dry additives is prohibited. The material must be spread in one pass and systems must be in place to keep the additives within the confines of the job.

Note 4. The multi-unit recycling train shall contain the following.

- a. A self-propelled cold milling machine that is capable of pulverizing the existing bituminous material in a single pass to the depth shown on the plans and to a minimum width of not less than 12.5 ft (3.8 m). The machine shall have automatic depth controls to maintain the cutting depth to within  $\pm 0.25$  in. (6 mm) of that shown on the plans, and shall have a positive means for controlling cross slope elevations. The use of a heating device to soften the pavement will not be permitted.
- b. A material sizing unit having screening and crushing capabilities to reduce the cold pulverized material to the appropriate size. The screening and crushing unit shall have a closed circuit system capable of continuously returning oversized material to the crusher. All of the pulverized material (100 percent) shall be processed to the maximum size requirements as specified.

- c. A mixing unit equipped with a belt scale for the continuous weighing of the pulverized and sized bituminous material and a coupled/interlocked computer controlled liquid metering device. The mixing unit shall be an on-board completely self-contained pugmill. The liquid metering device shall be capable of automatically adjusting the flow of foamed asphalt to compensate for any variation in the weight of pulverized material coming into the mixer. The metering device shall deliver the amount of foamed asphalt to within  $\pm 0.2$  percent of the required amount by weight of pulverized bituminous material (for example, if the design requires 3.0 percent, the metering device shall maintain between 2.8 percent to 3.2 percent). The foamed asphalt pump should be of sufficient capacity to allow foamed asphalt contents up to 3.5 percent by weight of pulverized bituminous material. Also, automatic digital readings will be displayed for both the flow rate and total amount of pulverized bituminous material and foamed asphalt in appropriate units of weight and time.

Note 5. The single-unit recycler shall be a self-propelled cold milling machine/cold recycling machine with a down cutting cutter head capable of pulverizing and recycling the existing hot-mix asphalt pavement to a maximum depth of 5 in. (125 mm), incorporate the foamed asphalt and water, and mix the materials to produce a homogeneous material. The minimum power of this machine is 900 hp (670 kW). The machine shall be capable of pulverizing and recycling not less than 12.5 ft (3.8 m) wide in each pass. The machine shall have two systems for adding foamed asphalt and water with each system having a full-width spray bar with a positive displacement pump interlocked to the machine's ground speed to insure that the amount of foamed asphalt and water being added is automatically adjusted with changes to the machine's ground speed. Each additive system shall have its own spray bar equipped with 2 nozzles per ft (6 nozzles per m) of spray bar and be capable of incorporating up to 5 gal/sq yd (23 L/sq m) of foamed asphalt and/or water. Individual valves on the spray bar shall be capable of being turned off as necessary to minimize foamed asphalt and water overlap on subsequent passes.

Note 6. Whether the equipment being used is a multi-unit or single-unit recycler, the foaming system must meet the following requirements.

- a. The foamed asphalt shall be produced at the spray bar in individual expansion chambers into which both the hot asphalt binder and water are injected under pressure through individual and separate orifices that promote atomization. The rate of addition of water into the hot asphalt binder shall be kept at a constant rate (percentage by mass of asphalt binder) by a computerized system.
- b. An inspection (or test) nozzle shall be fitted at one end of the spray bar that produces a representative sample of foamed asphalt.
- c. An electrical heating system capable of maintaining the temperature of all foamed asphalt flow components above 340 °F (171 °C).
- d. A single asphalt binder feed line installed between the recycling machine and the supply tanker. Circulating systems that incorporate a return line to the supply tanker shall not be used.



Any additives such as water, lime slurry, etc. added by the recycling equipment at the mill head or mixing unit shall be controlled through liquid metering devices capable of automatically adjusting for the variation in the weight of the pulverized material going into the mixing unit. The metering devices shall be capable of delivering the amount of additive to within  $\pm 0.2$  percent of the required amount by weight of the pulverized bituminous material. A capability of adding up to 5 percent water by weight of the pulverized bituminous material, if necessary based on environmental and material requirements, is mandatory. It will not be required to meter the water added at the milling machine to control dust in the screens, belts, or crusher/material sizing unit.

Note 7. The pick-up machine shall be capable of removing the entire windrow down to the remaining underlying material.

## CONSTRUCTION REQUIREMENTS

**Weather Limitations.** This work shall be performed when atmospheric temperature in the shade and away from artificial heat is 50 °F (10 °C) and rising. Also, the weather shall not be foggy or rainy. The weather forecast shall not call for freezing temperature within 48 hours after placement of any portion of the project. The Engineer may restrict work when the heat index is greater than 100 °F (38 °C).

**Preparation of Existing Pavement.** Grass and other vegetation shall be removed from the edge of the existing pavement to prevent contamination of the pulverized bituminous material during the milling operation.

The existing pavement shall be milled to the required depth and width as indicated on the plans. Recycling shall be in a manner that does not disturb the underlying material in the existing roadway. The milling operation shall be conducted so that the amount of fines occurring along the vertical faces of the cut will not prevent bonding of the cold recycled materials. The pulverized bituminous material shall be processed to the required gradation specified. When a paving fabric is encountered during the CIR operation, the Contractor shall make the necessary adjustments in equipment or operations so that at least 90 percent of the shredded fabric in the recycled material is no more than 5 sq in. (3200 sq mm). Additionally, no fabric piece shall have any dimension exceeding a length of 4 in. (100 mm). These changes may include, but not be limited to, adjusting the milling rate or screens in order to obtain a recycled material meeting specification requirements. The Contractor shall be required to waste material containing oversized pieces of paving fabric as directed by the Engineer. When the Contractor is aware that paving fabric exists, such as indicated on the plans, the Contractor will not receive additional payment. However, if the Contractor is not made aware of the paving fabric, then the Contractor shall receive additional payment for any necessary adjustments in equipment and operations.

**Mixing Operation.** The pulverized material shall be processed through a mixing unit capable of combining the pulverized material, foamed asphalt and any additives to produce a homogeneous recycled mixture. The foamed asphalt shall be incorporated into the pulverized bituminous material at the initial rate determined by the mix design(s) and approved by the Engineer. Sampling and mix design may determine different levels of foamed asphalt at various portions of the project.

**Spreading and Finishing.** The recycled material shall be spread using a self-propelled paver. A pick-up machine shall be used to transfer the windrowed recycled material into the spreading and finishing machine. The pickup machine must be within 150 ft (45 m) of the mixing unit. The recycled material shall be spread by a spreading and finishing machine in one continuous pass, without segregation and to the lines and grades established by the Engineer.

**Compaction.** The compacted recycled material shall be at a thickness of 2.5 to 5.0 in. (63 to 127 mm). The recycled material shall be compacted according to the following.

- (a) **Growth Curve.** Compaction shall be accomplished by performing a growth curve within the first one-half mile of production. If an adjustment is made to the foamed asphalt application rate or recycled depth, the Engineer reserves the right to request an additional growth curve. The growth curve, consisting of a plot of lb/cu ft (kg/cu m) versus number of passes with the project breakdown roller, shall be developed. Roller speed during the growth curve testing shall be the same as the normal paving operation. This curve shall be established by use of a nuclear gauge. Tests shall be taken after each pass until the highest lb/cu ft (kg/cu m) is obtained. This value shall be the target density.

A new growth curve is required if the rollers used on the growth curve are replaced with a new roller during production. The target density shall apply only to the specific gauge used. If additional gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge.

- (b) **Rollers.** Immediately after processing and final shaping the recycled material shall be compacted with equipment meeting the following requirements.

| MINIMUM ROLLER REQUIREMENTS FOR CIR                     |                                     |  |   |
|---|-------------------------------------|--|---|
| Breakdown Roller<br>(one of the following) <sup>1</sup> | Intermediate<br>Roller <sup>1</sup> | Final Roller (one<br>or more of the<br>following) <sup>1</sup> | Density Requirement   |
| V <sub>s</sub> , V <sub>D</sub>                         | P                                   | V <sub>s</sub> , T <sub>F</sub>                                | 95 - 102 percent of the<br>target density obtained on<br>the growth curve |

*Note: 1. Equipment definitions in Table 1 of Article 406.07.*

- (c) **Rolling.** Breakdown rolling shall be achieved by using a vibratory roller either operating in a static or vibratory mode. Vibratory mode should only be used if it is shown to not damage the pavement. Intermediate rolling shall be completed by a self-propelled pneumatic roller(s) until no displacement is occurring or until the pneumatic roller(s) is walking out of the mixture. Final rolling to eliminate pneumatic tire marks and to achieve density shall be done by a separate double drum steel roller(s) operating in static mode.

Rolling shall start no more than 30 minutes behind the paver. Finish rolling shall be completed no more than one hour after milling is completed. When possible, rolling shall not be started or stopped on uncompacted material but with rolling patterns established so that they begin or end on previously compacted material or the existing pavement.

**Opening to Traffic.** After the completion of compaction of the recycled material, no traffic, including that of the Contractor, shall be permitted on the completed recycled material for at least two hours. After two hours, rolling traffic may be permitted on the recycled material. This time may be adjusted by the Engineer to allow establishment of sufficient cure so traffic will not initiate raveling or permanent deformation. All loose particles that may develop on the pavement surface shall be removed by power brooming.

After opening to traffic, the surface of the recycled pavement shall be maintained in a condition suitable for the safe movement of traffic.

**Maintenance.** The Contractor shall maintain the recycled pavement in a manner satisfactory to the Engineer until the wearing course has been constructed. Maintenance related to Contractor construction procedures or quality of work, shall not be paid for separately.

**Curing.** Before placing the specified wearing course, the recycled pavement shall be allowed to cure until the moisture of the material is reduced to 2.0 percent or less, or approval of the Engineer. Unless otherwise directed by the Engineer, the specified wearing course shall be placed within two weeks of the recycled pavement final cure, but no later than November 1.

**Surface Tests.** The completed recycled pavement will be tested for smoothness in the wheel paths with a 16 ft (5 m) straightedge.

For each variation in the recycled pavement that exceeds 3/8 in. (10 mm), the entire area affected shall be corrected by a self-propelled milling machine. The recycled pavement shall be swept by a mechanical broom to remove all loose material from the recycled pavement before opening to traffic.

The Contractor shall furnish a 16 ft (5 m) straightedge and shall provide for its jobsite transportation at no additional cost to the Department.

**Quality Assurance/ Quality Control (QC/QA).**

- (a) Quality Control by the Contractor. The Contractor shall perform or have performed the inspection and tests required to assure conformance to contract requirements. Control includes the recognition of obvious defects and their immediate correction. This may require increased testing, communication of test results to the job site, modification of operations, suspension of the work, or other actions as appropriate.

The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported to the Engineer no later than the start of the next work day.

- (b) Quality Assurance by the Engineer. The Engineer will conduct independent assurance tests on split samples taken by the Contractor for quality control testing. In addition, the Engineer will witness the sampling and splitting of these samples and will immediately retain witnessed split samples for quality assurance testing.

- (c) Tests Methods and Frequency.

- (1) Depth of Pulverization (Milling). The nominal depth at the centerline shall be required. Anytime depth changes are made or equipment is idle, a depth check shall be taken.

- (2) Pulverized Material Sizing and Gradation. A sample shall be obtained before foamed asphalt addition and screened using a 1.5 in. (37.5 mm) sieve (or smaller sieve if required) to determine if meeting the maximum particle size requirement. Gradations shall be performed each day on the moist millings using the following sieves: 1.5 in., 1.0 in., 3/4 in., 1/2 in., 3/8 in., No. 4, No. 8, No. 16, and No. 30. The resulting gradation shall be compared to the mix design gradations to determine any necessary changes to foamed asphalt content.

Sampling procedures shall generally be in accordance with ASTM D 979 or AASHTO T 168. When the Engineer determines the location for a gradation sample, the Contractor will be notified to turn off the foamed asphalt and mark the location continuing to pulverize the hot-mix asphalt pavement until the Engineer is satisfied with the length of material pulverized without the addition of the foamed asphalt. The maximum length of pulverization without the addition of the foamed asphalt shall not exceed 100 ft (30 m). After the Contractor collects the gradation sample, the machine will be backed up to the location where the foamed asphalt was turned off, then re-pulverize this material adding the required amount of foamed asphalt to the pulverized material.

- (3) Foamed Asphalt Content. The Engineer shall be notified any time foamed asphalt content is changed. The foamed asphalt content shall be checked and recorded for each segment in which the percentage is changed. Foamed asphalt content changes shall be made based upon mix design recommendations, which are based upon different mix designs for road segments of varying construction. The foamed asphalt content shall be checked from the belt scale totalizer or foamed asphalt pump totalizer.
- (4) Water Content. The Engineer shall be notified any time the water content is changed. Water content at the milling head shall be checked and recorded for each segment in which the percentage is changed. This information shall be gathered from the water metering device, which can be checked from the belt scale totalizer to verify daily quantities used. Water content changes shall be made based on mixture consistency, coating, and dispersion of the recycled materials.
- (5) Compacted Density. A wet density shall be determined using a nuclear moisture-density gauge generally following the procedures for ASTM D 2950, backscatter measurement. This measurement shall be compared to the target density obtained by the growth curve.
- (6) Frequency. The following table provides the minimum frequency for tests; however, the Engineer may increase the testing frequency if the construction process is experiencing problems or unknown conditions are encountered.

| QC/QA TESTING FREQUENCY                  |                           |                           |
|--|---------------------------|---------------------------|
| Test                                     | QC Frequency <sup>1</sup> | QA Frequency <sup>1</sup> |
| Depth of Pulverization                   | 1 per 500 ft (150 m)      | 1 per 1000 ft (300 m)     |
| Pulverized Material Sizing and Gradation | 1 per 0.5 day production  | 1 per day production      |
| Foamed Asphalt Content                   | 1 per 500 ft (150 m)      | 1 per 1000 ft (300 m)     |
| Water Content                            | 1 per 500 ft (150 m)      | 1 per 1000 ft (300 m)     |
| Compacted Density                        | 1 per 0.25 mile (0.4 km)  | 1 per mile (1.6 km)       |

*Note: 1. The Contractor shall perform all quality control tests within the first 500 ft (150 m) after startup or any change in the mix. The Department will also run the split samples at these locations.*

**Method of Measurement.**

Bituminous material; will be measured for payment as specified in Section 1032.

Coarse aggregate will be measured in square yards (square meters).

The cold in-place recycling will be measured in square yards (square meters) of the recycled pavement.

**Basis of Payment.**

The asphalt binder will be paid for at the contract unit price per ton (metric ton) for CIR-FDR FOAMED ASPHALT.

The coarse aggregate will be paid for at the contract unit price per square yard (square meter) for ADD ROCK.

The cold in-place recycling will be paid for at the contract unit price per square yard (square meter) for COLD IN-PLACE RECYCLING, of the thickness specified.

If provided as a payment item, the additional cement, lime or fly ash required by the mix design will be measure and paid as specified in Section 302. If not provided as a payment item, the cost of additional cement, lime or fly ash required by the mix design will be paid for according to Article 109.04.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
for  
PULVERIZATION

January 24, 2017

All references to Divisions, Sections or Articles in this Special Provision shall be construed to mean specific Divisions, Sections or Articles of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

Description. The pulverization process shall be limited to low volume streets and roadways with an average daily traffic less than or equal to 400. This work shall consist of pulverizing the bituminous layers and/or portions of the aggregate base material to a specified depth and maximum size. Additional aggregate or reclaimed asphalt pavement shall be blended in as required. The pulverized pavement will be graded and compacted and used as an Aggregate Base Course.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials

| Item   | Article/Section |
|--|-----------------|
| (a) Water.....                               | 1002            |
| (b) Coarse Aggregates.....                   | 1004            |
| (c) Reclaimed Asphalt Pavement (Note 1)..... | 1031            |

Note 1. Reclaimed asphalt pavement (RAP) from Conglomerate "D" Quality or better RAP stockpiles as specified in Article 1031.02 or from milling of the existing roadway may be used as shown on the plans. The RAP material shall not exceed the maximum size requirement of the cold pulverized material.

Equipment. Equipment shall be according to the following Articles of Division 1100 – Equipment

| Item   | Article/Section |
|--|-----------------|
| (a) Self-Propelled Pneumatic-Tired Rollers (Note 1)..... | 1101.01(c)      |
| (b) Vibratory Roller (Note 2).....                       | 1101.01(g)      |
| (c) Motor Grader.....                                    | 1101.05         |
| (d) Aggregate Spreaders.....                             | 1102.04         |
| (e) Self-Propelled Vibratory Padfoot Roller (Note 3)     |                 |
| (f) Self-Propelled Reclaimer (Note 4)                    |                 |

Note 1. The self-propelled pneumatic-tired roller shall have a gross weight of not less than 25 tons (23 metric tons).

Note 2. The double drum vibratory steel roller shall have a gross weight of not less than 10 tons (9 metric tons).

Note 3. The self-propelled vibratory pad foot roller shall have 84 in. (2133 mm) wide drums and gross weight of not less than 10 tons (9 metric tons). A front mounted blade is recommended for back-dragging.

Note 4. The self-propelled reclaimer shall be capable of fully pulverizing the existing pavement to the depth required, incorporating water, and mixing the materials to produce a homogeneous material. The minimum power of the self-propelled reclaimer shall be 500 hp (373 kW). The self-propelled reclaimer shall be capable of reclaiming not less than 8 ft (2.4 m) wide and up to 12 in. (305 mm) deep in each pass. The self-propelled reclaimer shall have a system for adding water with a full-width spray bar consisting of a positive displacement pump interlocked to the self-propelled reclaimer's ground speed so the amount of water being added is automatically adjusted with changes to the self-propelled reclaimer's ground speed. Individual valves on the spray bar shall be capable of being turned off as necessary to minimize water overlap on subsequent passes.

### **Pulverization, Shaping, and Compacting.**

The existing bituminous layers and aggregate base material shall be pulverized, to the depth required, by the self-propelled reclaimer and shaped by the motor grader to the proposed crown according to the plans. If additional aggregate is required to meet the proposed grade line, this material shall be added prior to pulverization and thoroughly blended during the pulverization process. All of the pulverized material shall pass the 1-1/2 in. sieve. The pulverized and shaped material shall be compacted to the satisfaction of the Engineer. The moisture content shall be sufficient to prevent segregation of the pulverized materials. Water should be added as required by the Engineer to obtain compaction satisfactory to the Engineer.

### **Quality Control / Quality Assurance (QC/QA).**

- 1) Quality Control by the Contractor. The Contractor shall perform or have performed the inspection and tests required to assure conformance of the contract requirements. Control includes the recognition of obvious defects and their immediate correction. This may require increased testing, communication of test results to the job site, modification of operations, suspension of the work, or other actions appropriate.

The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported to the Engineer no later than the start of the next work day.

- 2) Quality Assurance by the Engineer. The Engineer will conduct independent assurance tests on split samples taken by the Contractor for quality control testing. In addition, the Engineer will witness the sampling and splitting of these samples and will immediately retain witnessed split samples for quality assurance testing.

### 3) Test Methods

- a) Depth of Pulverization. The nominal depth measured at the centerline shall be required.
- b) Maximum Particle Size. Sampling shall be done at three randomly located test holes across the width of the pulverized material per test site. Sampling / testing should be done immediately behind the self-propelled reclaimer machine. Caution should be used to avoid obtaining subgrade material with the pulverized material from the test holes. All of the pulverized material shall pass through a 1-1/2 in. sieve.
- c) Compaction and Stability. A proof rolling test is to be conducted using a standard proof rolling vehicle to assess the quality of the road. The test vehicle for proof rolling shall consist of a tandem axle truck loaded to a minimum gross weight of 40,000 lb (18,100 kg). Proof rolling shall consist of 10 passes in each lane of the completed pulverized base course. Failure of the proof rolling test will be indicated by ruts in excess of one half inch (1/2 in). Any failures in the base that occur during the proof rolling shall be immediately repaired and shall be subjected to an additional five passes of the test vehicle after the initial 10 passes are completed. This process shall be repeated, if necessary, until all failed areas pass the proof rolling. A nuclear density test is permitted when the proof rolling test is not a viable option.
- d) Frequency. The following list provides the minimum frequency for tests; however, the Engineer may increase the testing frequency if the construction process is experiencing problems or unknown conditions are encountered.

|                          |                               |
|--------------------------|-------------------------------|
| Depth of Pulverization   | - QC 1 per 500 ft (150 m)     |
|                          | - QA 1 per 1000 ft (300 m)    |
| Maximum Particle Size    | - QC 1 per 0.5 day production |
|                          | - QA 1 per 1.0 day production |
| Compaction and Stability | - QC 1 per 0.25 mile (0.4 km) |
|                          | - QA 1 per 1.0 mile (1.6 km)  |

#### **Method of Measurement.**

Pulverization will be measured in square yards (square meters) using the centerline length and width from outside to outside of completed pavement.

If additional Coarse Aggregate is required, it will be measured in tons (metric tons) according to the requirements of Article 311.08(b).

#### **Basis of Payment.**

The pulverization will be paid for at the contract unit price per square yard (square meter) for PULVERIZATION, of the thickness specified.

The coarse aggregate or reclaimed asphalt pavement will be paid for at the contract unit price per ton (metric ton) for AGGREGATE BASE REPAIR.



State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
SURFACE PROFILE MILLING OF EXISTING, RECYCLED, OR RECLAIMED  
FLEXIBLE PAVEMENT

Effective: April 1, 2012  
Revised: June 1, 2012

All references to Divisions, Sections, and Articles in this Special Provision shall be construed to mean specific Divisions, Sections, and Articles in the Standard Specifications for Road and Bridge Construction adopted by the Department of Transportation.

**Description.** This work shall consist of surface profile milling existing, recycled, or reclaimed flexible pavement prior to application of a surface treatment less than or equal to 1.5 in. (38 mm) thick.

**Equipment.** Equipment shall be according to the following Articles of Division 1100 – Equipment.

- (a) Self-Propelled Milling Machine (Note 1)..... 1101.16

Note 1. The self-propelled milling machine shall be capable of milling an entire lane width in a single pass and have the capability of loading the millings into a truck.

The cutting drum and teeth shall be designed to produce the required 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 ft (1.8 m) in the longitudinal direction, and each striation shall be  $1.7 \pm 0.2$  in. ( $43 \pm 5$  mm) in length after the area is planed by the moldboard. The planed length between each pair of striations shall be  $2.3 \pm 0.2$  in. ( $58 \pm 5$  mm). There shall be 80 to 96 rows of discontinuous longitudinal striations for each 5 ft (1.5 m) in the transverse direction. The pattern of striations shall be such that a line connecting striations in adjacent rows shall form approximately a 70 degree skew angle with the roadway centerline. The areas between the striations in both the longitudinal and transverse directions shall be flat-topped and coplanar.

The milling machine shall be capable of accurately and automatically establishing grades by use of an automatic grade control device on one side of the machine with an automatic slope control device controlling the opposite side. It shall be equipped with a traveling grade reference (averaging ski) which shall not be less than 30 feet (9 m) in length.

**CONSTRUCTION REQUIREMENTS**

**Surface Test.** The completed recycled or reclaimed pavement will be tested for smoothness in the wheel paths with a 16 ft (5 m) straightedge.

For each variation in the recycled or reclaimed pavement that exceeds 3/16 in. (5 mm), the entire area affected shall be corrected by surface profile milling. The self-propelled milling machine shall be used for surface profile milling. At any time the surface profile milling fails to produce a flat plane interspersed with the specified uniform pattern of discontinuous longitudinal striations, the surface profile milling shall be stopped until corrections are made to the equipment. The surface profile milling speed shall be limited to 60 ft/min (18 m/min). If the Contractor demonstrates that the desired striations and ride specifications are obtained at a greater speed, the Engineer may permit the Contractor to operate at an increased speed.

After surface profile milling, the recycled or reclaimed pavement shall be swept by a mechanical broom to remove all loose material from the recycled or reclaimed pavement before opening to traffic.

The Contractor shall furnish a 16 ft (5 m) straightedge and shall provide for its jobsite transportation at no additional cost to the Department.

**Method of Measurement.**

The surface profile milling will be measured in square yards (square meters).

**Basis of Payment.**

The surface profile milling will be paid for at the contract unit price per square yard (square meter) for SURFACE PROFILE MILLING.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets  
SPECIAL PROVISION  
FOR  
CONSTRUCTION AND MAINTENANCE SIGNS

Effective: January 1, 2004  
Revised: June 1, 2007

All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

701.14. Signs. Add the following paragraph to Article 701.14:

All warning signs shall have minimum dimensions of 1200 mm x 1200 mm (48" x 48") and have a black legend on a fluorescent orange reflectorized background, meeting, as a minimum, Type AP reflectivity requirements of Table 1091-2 in Article 1091.02.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
COLD IN-PLACE RECYCLING (CIR) AND FULL-DEPTH RECLAMATION (FDR) WITH  
FOAMED ASPHALT MIX DESIGN PROCEDURES

Effective: June 1, 2012

All references to Divisions, Sections, and Articles in this Special Provision shall be construed to mean specific Divisions, Sections, and Articles in the Standard Specifications for Road and Bridge Construction adopted by the Department of Transportation.

**Laboratory Temperature and Humidity Control**

Each laboratory performing mix designs shall have heating, ventilation, and air conditioning (HVAC) equipment that maintains a room temperature of 68 to 86 °F (20 to 30 °C) and relative humidity of less than 60 percent.

**Sampling and Processing**

A minimum sample size of 350 lb (160 kg) is needed for each mix design. Bulk samples of the recycled layer thickness shall be obtained from either test pits or cores. Each layer shall be examined to confirm thickness and material.

The bituminous layers shall be crushed. A washed gradation of the crushed bituminous layer(s) shall be performed according to AASHTO T 27, reported, and meet the following requirement(s).

| Sieve Size |         | Percent Passing             |               |
|------------|---------|-----------------------------|---------------|
|            |         | CIR/FDR with Foamed Asphalt |               |
|            |         | Ideal                       | Less Suitable |
| 2 in.      | 50 mm   | 100                         |               |
| 1 1/2 in.  | 37.5 mm | 87 – 100                    |               |
| 1 in.      | 25 mm   | 77 – 100                    | 100           |
| 3/4 in.    | 19 mm   | 66 – 99                     | 99 – 100      |
| 1/2 in.    | 12.5 mm | 67 – 87                     | 87 – 100      |
| 3/8 in.    | 9.5 mm  | 49 – 74                     | 74 – 100      |
| No. 4      | 4.75 mm | 35 – 56                     | 56 – 95       |
| No. 8      | 2.36 mm | 25 – 42                     | 42 – 78       |
| No. 16     | 1.18 mm | 18 – 33                     | 33 – 65       |
| No. 50     | 300 µm  | 10 – 24                     | 24 – 43       |
| No. 200    | 75 µm   | 4 – 10                      | 10 – 20       |

Washed gradation (AASHTO T 27) and sand equivalent (ASTM D 2419, Method B) shall be performed and reported for any granular layer. The washed gradation (AASHTO T 27) of combined layers shall be performed and reported. If combined layers include an aggregate layer, the sand equivalent (ASTM D 2419, Method B) shall be performed and reported.

All washed gradations shall be dried at no greater than 104 °F (40 °C).

### Active filler requirements

Foamed asphalt stabilization is normally carried out in combination with a small amount of active filler (cement, fly ash, or lime) to enhance the dispersion of the foamed asphalt. The following application rates (by mass) of cement, fly ash, or lime should be used as a guide:

| Plasticity Index: < 10  | Plasticity Index: > 10  |
|---|---|
| Add 1 percent ordinary portland cement or 1 percent lime (material dependent) | Pre-treat with minimum 2 percent lime. The initial consumption of lime (ICL) has to be satisfied. |

Pre-treatment requires that the lime and water be added at least four hours prior to the addition of the foamed asphalt. The treated material must be placed in an air-tight container to retain moisture. However, due to the hydration process, the moisture content should always be checked and, if necessary, adjusted prior to adding the foamed asphalt.

Note: Additional tests without active filler should always be carried out as part of the mix design process. The results of these tests allow a decision to be made as to whether the addition of an active filler is warranted.

### Mixing and Compaction

The Optimum Fluid Content (OFC) and the Maximum Dry Density (MDD) of the stabilized material is determined using modified compaction effort (Modified Proctor, ASTM D 1557, Method C).

### Determination of Expansion Ratio and Half-Life

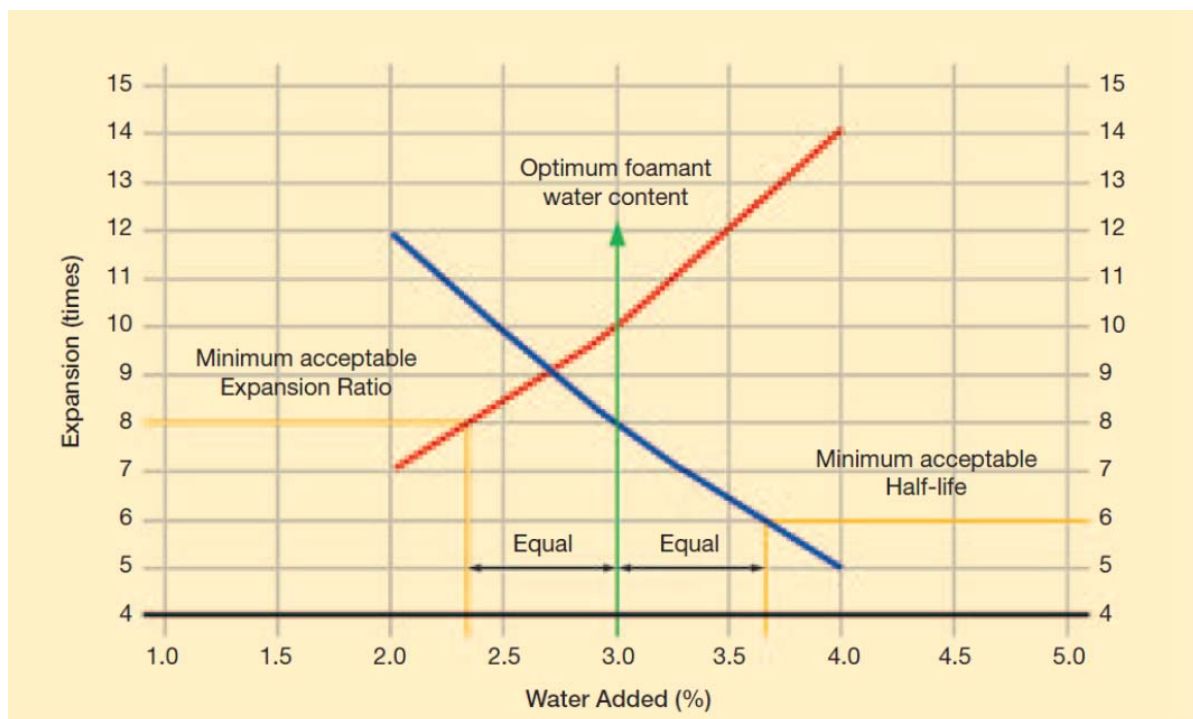
The foaming properties of asphalt are characterized by:

- Expansion Ratio. A measure of the viscosity of the foamed bitumen, calculated as the ratio of the maximum volume of the foam relative to the original volume of bitumen.
- Half-Life. A measure of the stability of the foamed bitumen, calculated as the time taken in seconds for the foam to collapse to one-half of its maximum volume.

The objective is to determine the temperature and percentage of water addition that is required to produce the best foam properties (maximum expansion ratio and half-life) for a particular source of bitumen. This is achieved at three different bitumen temperatures not exceeding 380 °F (195 °C) with the following procedure.

1. Heat the bitumen in the kettle foaming laboratory unit with the pump circulating the bitumen through the system until the required temperature is achieved normally starting with 320 °F (160 °C). Maintain the required temperature for at least five minutes prior to commencing with testing.
2. Calibrate the discharge rate of the bitumen and set the timer on the foaming laboratory unit to discharge 500 g of bitumen ( $Q_{\text{bitumen}}$ ).
3. Set the water flow-meter to achieve the required water injection rate normally starting with 2 percent by mass of the bitumen.
4. Discharge foamed bitumen into steel drum preheated to  $\pm 135$  °F ( $\pm 75$  °C) of the bitumen for a calculated spray time for 500 g of bitumen. Immediately after the foam discharge stops, start a stopwatch.
5. Using the calibrated dipstick supplied with the foaming laboratory unit measure the maximum height the foamed bitumen achieves in the drum. This is recorded as the maximum volume.

6. Use the stopwatch to measure the time in seconds that the foam takes to dissipate to one-half of its maximum volume. This is recorded as the foamed bitumen's half-life.
7. Repeat the above procedures three times or until similar readings are achieved.
8. Repeat Steps 3 through 7 for a range of at least three water injection rates. Typically, values of 2 percent, 3 percent and 4 percent by mass of bitumen are used.
9. Plot a graph of the expansion ratio versus half-life at the different water injection rates on the same set of axes (see an example in the graph below). The optimum water addition is chosen as an average of the two water contents required to meet these minimum criteria.



Repeat Steps 1 through 9 for two other bitumen temperatures normally 340 °F (170 °C) and 360 °F (180 °C). The temperature and optimum water addition that produces the best foam is then used in the mix design procedure described below.

**Sample preparation for foamed bitumen treatment**

Prepare the material for foamed bitumen treatment as follows:

1. Place 20 to 25 kg of prepared sample into the pug mill mixer.
2. Determine the dry mass of the sample using the following equation:

$$m_{sample} = \frac{m_{air-dry}}{\left(1 + \left(\frac{W_{air-dry}}{100}\right)\right)}$$

Where:  $m_{sample}$  = dry mass of the sample in grams  
 $m_{air-dry}$  = air-dried mass of the sample in grams  
 $W_{air-dry}$  = moisture content of air-dried sample in percent by mass

3. Determine the required percentage of active filler (lime, cement, or fly ash) using the following equation:

$$m_{\text{cement}} = \left( \frac{W_{c\text{-add}}}{100} \right) m_{\text{sample}}$$

Where:  $m_{\text{cement}}$  = mass of lime, cement, or fly ash to be added in grams  
 $W_{c\text{-add}}$  = percentage of lime, cement, or fly ash required in percent by mass  
 $m_{\text{sample}}$  = dry mass of the sample in grams

4. Determine the percentage of water to be added for optimum mixing moisture and the amount of water to be added to the sample using the following equations:

$$W_{\text{add}} = 0.75W_{\text{OMC}} - W_{\text{air-dry}}$$

$$m_{\text{water}} = \left( \frac{W_{\text{add}}}{100} \right) (m_{\text{sample}} + m_{\text{cement}})$$

where:  $W_{\text{add}}$  = water to be added to sample in percent by mass  
 $W_{\text{OMC}}$  = optimum moisture content in percent by mass  
 $W_{\text{air-dry}}$  = moisture content of air-dried sample in percent by mass  
 $m_{\text{water}}$  = mass of water to be added in grams  
 $m_{\text{sample}}$  = dry mass of the sample in grams  
 $m_{\text{cement}}$  = mass of lime, cement or fly ash to be added in grams

5. Mix the material, active filler, and water in the mixer until uniform.

Note: Inspect the sample after mixing to ensure that the mixed material is not packed against the sides of the mixer. If this situation occurs, mix a new sample at a lower moisture content. Check to see that the material mixes easily and remains in a “fluffed” state. If any dust is observed at the end of the mixing process, add small amounts of water and remix until a “fluffed” state is achieved with no dust.

6. Determine the amount of foamed bitumen to be added using the following equation:

$$m_{\text{bitumen}} = \left( \frac{W_{b\text{-add}}}{100} \right) (m_{\text{sample}} + m_{\text{cement}})$$

where:  $m_{\text{bitumen}}$  = mass of foamed bitumen to be added in grams  
 $W_{b\text{-add}}$  = foamed bitumen content in percent by mass  
 $m_{\text{sample}}$  = dry mass of the sample in grams  
 $m_{\text{cement}}$  = mass of lime, cement or fly ash to be added in grams

7. Determine the timer setting on the foaming laboratory unit using the following equation:

$$t = \frac{m_{\text{bitumen}}}{Q_{\text{bitumen}}}$$

where:  $t$  = time to be set on the foaming laboratory unit timer  
 $m_{\text{bitumen}}$  = mass of foamed bitumen to be added in grams  
 $Q_{\text{bitumen}}$  = bitumen flow rate for the foaming laboratory unit in grams/second

8. Position the mixer adjacent to the foaming unit so that the foamed bitumen can be discharged directly into the mixing chamber.
9. Start the mixer and allow it to mix for at least 10 seconds before discharging the required mass of foamed bitumen into the mixing chamber. After the foamed bitumen has discharged into the mixer, continue mixing for an additional 30 seconds or until uniformly mixed.
10. The moisture content of the material is to be adjusted to 90 percent of optimum moisture content.
11. Add the additional water and mix until uniform.

12. Transfer the foamed bitumen treated material into a container and immediately seal the container to retain moisture. To minimize moisture loss from the prepared sample, compact the specimens as soon as possible.

Repeat the above steps for at least four different foamed asphalt contents.

### Compaction

Six specimens are manufactured for each sample at the different bitumen contents. Compact the specimens as follows:

1. Prepare the Marshall mold and hammer by cleaning the mold, collar, base-plate and face of the compaction hammer.

Note: The compaction equipment must not be heated but kept at ambient temperature.

2. Weigh sufficient material to achieve a compacted height of  $2.5 \pm 0.125$  in. ( $63.5 \pm 1.5$  mm) (usually 1150 g is adequate). Poke the mixture with a spatula 15 times around the perimeter and 10 times on the surface, leaving the surface slightly rounded.
3. Compact the mixture by applying 75 blows with the compaction hammer. Care must be taken to ensure the continuous free fall of the hammer.
4. Take  $\pm 1000$  g representative samples after compaction of the second and fifth specimen and dry to a constant mass at 220 to 230 °F (105 to 110 °C). Determine the molding moisture using the following equation:

$$w_{mold} = \left( \frac{m_{moist} - m_{dry}}{m_{dry}} \right) 100$$

where:  $w_{mold}$  = molding moisture content in percent by mass  
 $m_{moist}$  = mass of moist material in grams  
 $m_{dry}$  = mass of dry material in grams

5. Remove the mold and collar from the pedestal, invert the specimen (turn over). Replace it and press down firmly to ensure that it is secure on the base plate. Compact the other face of the specimen with an additional 75 blows.
6. After compaction, remove the mold from the base-plate and extrude the specimen by means of an extrusion jack. Measure the height of the specimen and adjust the amount material if the height is not within the required limits.

Note: With certain materials lacking cohesion, it may be necessary to leave the specimen in the mold for 24 hours, allowing sufficient strength to develop before extracting.

### Curing after Compaction

Specimens shall be cured for 72 hours at 104 °F (40 °C). The bottom of the specimens shall rest on racks with slots or holes for air circulation. After curing, specimens for moisture conditioning shall be cooled at ambient temperature a maximum of 24 hours; specimens for dry strength shall cool at ambient temperature or 77 °F (25 °C) and be tested at the same time as moisture-conditioned specimens.

Specimens for Rice (maximum theoretical) specific gravity shall be cured at the same conditions as the compacted specimens, except they can be tested after cooling a maximum of 24 hours.

### Volumetric Measurements

Determine bulk specific gravity (ASTM D 6752) of the specimens. Keep specimens in bags until testing or vacuum saturation is performed. ASTM D 2726 may be used to determine bulk specific gravity if specimens' absorption is less than or equal to 2 percent of water by volume.

Determine Rice (maximum theoretical) specific gravity (ASTM D 2041).



Determine air voids at all foamed asphalt contents used in the design.

### Mechanical Measurements

Perform ITS testing according to AASHTO T 283 (IL Modified). Specimens shall be conditioned at 77 °F (25 °C) for two hours before testing. Vacuum saturate one-half of the specimens at each foamed asphalt content to a minimum 55 percent of the voids filled with water. Soak for 24 hours at 77 °F (25 °C) before testing.

### Raveling Test (CIR with Foamed Asphalt Only)

The apparatus used for the raveling test is a modified A-120 Hobart mixer and abrasion head (including hose) used in the Wet Track Abrasion of Slurry Surfaces Test (ISSA TB-100). The rotation speed for the raveling test is not modified from ISSA TB-100. The ring weight is removed from the abrasion head for the raveling test below. The weight of the abrasion head and hose in contact with the specimen should be 600 g ± 15 g. The prepared sample must be able to be secured under the abrasion head, and centered for an accurate result, allowing for free movement vertically of the abrasion head. The device used for securing and centering the sample must allow a minimum of 0.4 in. (10 mm) of the sample to be available for abrasion. The Hobart mixer will need to be modified to allow the sample to fit properly for abrasion. The modification may be accomplished by adjusting the abrasion head height, or the height of the secured sample. The Hobart C-100 and N-50 Models are not acceptable for this test procedure due to differences in size and speed of rotation.

1. Split out two recycled asphalt samples from the medium gradation, or field sample, to a quantity of 2700 g in mass. The 2700 g is an approximate weight to give 2.8 in. ± 0.2 in. (70 mm ± 5 mm) of height after compaction.
2. The recycled asphalt sample should be placed in a container of adequate size for mixing.
3. Field or design moisture contents should be added to each of the recycled asphalt samples and mixed for 60 seconds.
4. The design emulsion content shall be added to each of the recycled asphalt samples and mixed for 60 seconds.
5. The samples shall be placed immediately into a 6 in. (150 mm) gyratory compaction mold and compacted to 20 gyrations. If the sample height is not 2.8 in. ± 0.2 in. (70 mm ± 5 mm), the recycled asphalt weight should be adjusted.
6. After compaction, the samples shall be removed from the compaction mold and placed on a flat pan to cure at the specified temperature and humidity (if required) for 240 minutes ± 5 minutes. The temperature shall be maintained at 50 °F ± 3.5 °F (10 °C ± 2 °C).
7. The specimens shall be weighed after the curing, just prior to testing.
8. The specimens shall be placed on the raveling test apparatus. Care should be taken that the specimen is centered and well supported. The area of the hose in contact with the specimen should not have been previously used. It is allowable to rotate the hose to an unworn section for testing. The abrasion head (with hose) shall be free to move vertically downward a minimum of 0.2 in. (5 mm) if abrasion allows.
9. The samples shall be abraded for 15 minutes and immediately weighed.
10. The Percent Raveling Loss shall be determined as follows:

$$PRL = 100 \times \frac{W_P - W_A}{W_p}$$

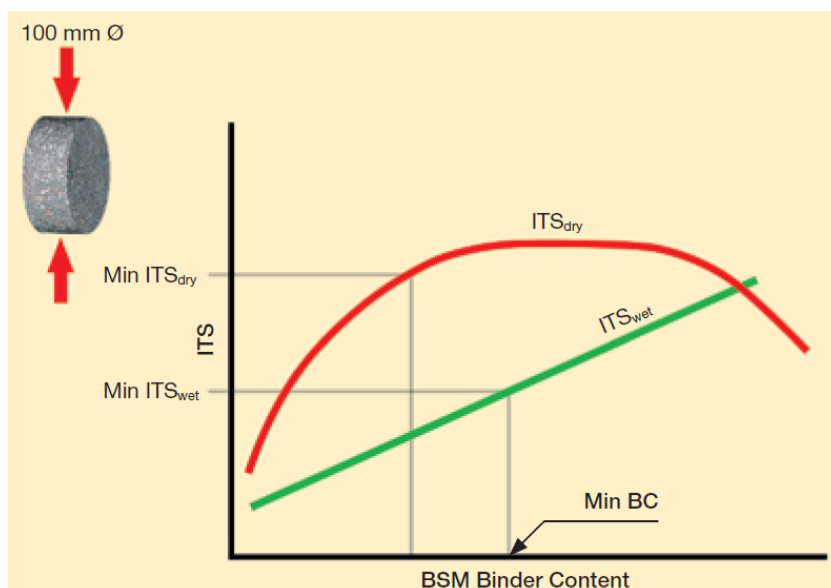
Where:  $PRL$  = Percent Raveling Loss  
 $W_P$  = Weight of Sample Prior to Testing  
 $W_A$  = Weight of Sample After Testing

11. The average of the two specimens shall be reported as the Percent Raveling Loss. If there is a difference of  $> 0.5$  percent raveling loss between the two test specimens, the Raveling Test shall be repeated. If both of the test specimens have a Percent Raveling Loss of  $> 10$  percent, the two test results shall be averaged and the maximum 0.5 percent difference between test specimens shall not be required.

*Note: If field mix samples are taken, steps 2, 3, and 4 shall be omitted.*

### Foamed Asphalt Content Selection

The results of the respective soaked and unsoaked ITS test results are plotted against the relevant bitumen content that was added. The added bitumen content that best meets the desired Bitumen Stabilized Material (BSM) classification is selected as the amount of bitumen to be added, as shown in the example below.



### Report

All mix design test results shall be reported to the Department. All additional additives and bituminous material shall be reported to the Department.

## **COMPENSABLE DELAY COSTS (BDE)**

Effective: June 2, 2017

Revised: April 1, 2019

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the

Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

“(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead

other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

**“109.13 Payment for Contract Delay.** Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

| Contract Type   | Cause of Delay                               | Length of Delay   |
|-----------------|--|---|
| Working Days    | Article 108.04(b)(3) or Article 108.04(b)(4) | No working days have been charged for two consecutive weeks.  |
| Completion Date | Article 108.08(b)(1) or Article 108.08(b)(7) | The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08. |

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
  - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

| Original Contract Amount               | Supervisory and Administrative Personnel                                   |
|--|--|
| Up to \$5,000,000                      | One Project Superintendent   |
| Over \$ 5,000,000 - up to \$25,000,000 | One Project Manager, One Project Superintendent or Engineer, and One Clerk |
| Over \$25,000,000 - up to \$50,000,000 | One Project Manager, One Project Superintendent, One Engineer, and         |

|                   |  |
|-------------------|--|
|                   | One Clerk  |
| Over \$50,000,000 | One Project Manager,<br>Two Project Superintendents,<br>One Engineer, and<br>One Clerk |

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

When an extended traffic control adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

80384

## **DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)**

Effective: September 1, 2000

Revised: March 2, 2019

**FEDERAL OBLIGATION.** The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

**STATE OBLIGATION.** This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

**CONTRACTOR ASSURANCE.** The Contractor makes the following assurance and agrees to include the assurance in each subcontract the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

**OVERALL GOAL SET FOR THE DEPARTMENT.** As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a

good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform 0.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".



The Department will not accept a Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan is approved. All information submitted by the bidder must be complete, accurate and adequately document enough DBE participation has been obtained or document the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. This means the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts the bidder has made. Mere *pro forma* efforts, in other words efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.
  - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
  - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.
  - (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
  - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
  - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
  - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
  - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the

bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.

- (c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "[DOT.DBE.UP@illinois.gov](mailto:DOT.DBE.UP@illinois.gov)" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

**CALCULATING DBE PARTICIPATION.** The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
  - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
  - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
  - (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
  - (2) 100 percent goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
  - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

**CONTRACT COMPLIANCE.** Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at [DOT.DBE.UP@illinois.gov](mailto:DOT.DBE.UP@illinois.gov).
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
  - (2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
  - (3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.

- (6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be

made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of “Good Faith Effort Procedures” of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

80029



## **DISPOSAL FEES (BDE)**

Effective: November 1, 2018

Replace Articles 109.04(b)(5) – 109.04(b)(8) of the Standard Specifications with the following:

- “(5) Disposal Fees. When the extra work performed includes paying for disposal fees at a clean construction and demolition debris facility, an uncontaminated soil fill operation or a landfill, the Contractor shall receive, as administrative costs, an amount equal to five percent of the first \$10,000 and one percent of any amount over \$10,000 of the total approved costs of such fees.
- (6) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- (7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor’s stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements at the cost of force account work shall be detailed as follows.

- a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.
  - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
  - c. Quantities of materials, prices and extensions.
  - d. Transportation of materials.
  - e. Cost of property damage, liability and workmen’s compensation insurance premiums, unemployment insurance contributions, and social security tax.
- (8) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being \$100.

- (9) All statements of the cost of force account work shall be furnished to the Engineer not later than 60 days after receipt of the Central Bureau of Construction form "Extra Work Daily Report". If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery."

80402

## EMULSIFIED ASPHALTS (BDE)

Effective: August 1, 2019

Revise Article 1032.06 of the Standard Specifications to read:

**“1032.06 Emulsified Asphalts.** Emulsified asphalts will be accepted according to the current Bureau of Materials Policy Memorandum, “Emulsified Asphalt Acceptance Procedure”. These materials shall be homogeneous and shall show no separation of asphalt after thorough mixing, within 30 days after delivery, provided separation has not been caused by freezing. They shall coat the aggregate being used in the work to the satisfaction of the Engineer and shall be according to the following requirements.

- (a) Anionic Emulsified Asphalt. Anionic emulsified asphalts RS-1, RS-2, HFRS-2, SS-1h, and SS-1 shall be according to AASHTO M 140, except as follows.
  - (1) The cement mixing test will be waived when the emulsion is being used as a tack coat.
  - (2) The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent.
- (b) Cationic Emulsified Asphalt. Cationic emulsified asphalts CRS-1, CRS-2, CSS-1h, and CSS-1 shall be according to AASHTO M 208, except as follows.
  - (1) The cement mixing test will be waived when the emulsion is being used as a tack coat.
  - (2) The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent.
- (c) High Float Emulsion. High float emulsions HFE-90, HFE-150, and HFE-300 are medium setting and shall be according to the following table.

| Test   | HFE-90                  | HFE-150           | HFE-300           |
|--|-------------------------|-------------------|-------------------|
| Viscosity, Saybolt Furol, at 122 °F (50 °C), (AASHTO T 59), SFS <sup>1/</sup>  | 50 min.                 | 50 min.           | 50 min.           |
| Sieve Test, No. 20 (850 µm), retained on sieve, (AASHTO T 59), %   | 0.10 max.               | 0.10 max.         | 0.10 max.         |
| Storage Stability Test, 1 day, (AASHTO T 59), %  | 1 max.                  | 1 max.            | 1 max.            |
| Coating Test (All Grades), (AASHTO T 59), 3 minutes  | stone coated thoroughly |                   |                   |
| Distillation Test, (AASHTO T 59):<br>Residue from distillation test to 500 °F (260 °C), %<br>Oil distillate by volume, % | 65 min.<br>7 max.       | 65 min.<br>7 max. | 65 min.<br>7 max. |

|  |           |           |           |
|--|-----------|-----------|-----------|
| Characteristics of residue from distillation test to 500 °F (260 °C): Penetration at 77 °F (25 °C), (AASHTO T 49), 100 g, 5 sec, dmm | 90-150    | 150-300   | 300 min.  |
| Float Test at 140 °F (60 °C), (AASHTO T 50), sec.  | 1200 min. | 1200 min. | 1200 min. |

1/ The emulsion shall be pumpable.

- (d) Penetrating Emulsified Prime. Penetrating Emulsified Prime (PEP) shall be according to AASHTO T 59, except as follows.

| Test   | Result    |
|--|-----------|
| Viscosity, Saybolt Furol, at 77 °F (25 °C), SFS  | 75 max.   |
| Sieve test, retained on No. 20 (850 µm) sieve, % | 0.10 max. |
| Distillation to 500 °F (260 °C) residue, %       | 38 min.   |
| Oil distillate by volume, %                      | 4 max.    |

The PEP shall be tested according to the current Bureau of Materials Illinois Laboratory Test Procedure (ILTP), "Sand Penetration Test of Penetrating Emulsified Prime (PEP)". The time of penetration shall be equal to or less than that of MC-30. The depth of penetration shall be equal to or greater than that of MC-30.

- (e) Delete this subparagraph.
- (f) Polymer Modified Emulsified Asphalt. Polymer modified emulsified asphalts, e.g. SS-1hP, CSS-1hP, CRS-2P (formerly CRSP), CQS-1hP (formerly CSS-1h Latex Modified) and HFRS-2P (formerly HFP) shall be according to AASHTO M 316, except as follows.
- (1) The cement mixing test will be waived when the polymer modified emulsion is being used as a tack coat.
  - (2) CQS-1hP (formerly CSS-1h Latex Modified) emulsion for micro-surfacing treatments shall use latex as the modifier.
  - (3) 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.
  - (4) The distillation for all polymer modified emulsions shall be performed according to AASHTO T 59, except the temperature shall be  $374 \pm 9$  °F ( $190 \pm 5$  °C) to be held for a period of 15 minutes and measured using an ASTM 16F (16C) thermometer.
  - (5) The specified temperature for the Elastic Recovery test for all polymer modified emulsions shall be  $50.0 \pm 1.0$  °F ( $10.0 \pm 0.5$  °C).

(6) The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent.

(g) Non-Tracking Emulsified Asphalt. Non-tracking emulsified asphalt NTEA (formerly SS-1vh) shall be according to the following.

| Test  | Requirement   |
|---|---------------|
| Saybolt Viscosity at 77 °F (25 °C), (AASHTO T 59), SFS  | 20-100        |
| Storage Stability Test, 24 hr, (AASHTO T 59), %   | 1 max.        |
| Residue by Distillation, 500 ± 10 °F (260 ± 5 °C), or Residue by Evaporation, 325 ± 5 °F (163 ± 3 °C), (AASHTO T 59), % | 50 min.       |
| Sieve Test, No. 20 (850 µm), (AASHTO T 59), %   | 0.3 max.      |
| Tests on Residue from Evaporation   |               |
| Penetration at 77 °F (25 °C), 100 g, 5 sec, (AASHTO T 49), dmm  | 40 max.       |
| Softening Point, (AASHTO T 53), °F (°C)   | 135 (57) min. |
| Ash Content, (AASHTO T 111), % <sup>1/</sup>  | 1 max.        |

1/ The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent

The different grades are, in general, used for the following.

| Grade   | Use   |
|---|---|
| SS-1, SS-1h, RS-1, RS-2, CSS-1, CRS-1, CRS-2, CSS-1h, HFE-90, SS-1hP, CSS-1hP, NTEA (formerly SS-1vh) | Tack Coat                                       |
| PEP   | Prime Coat                                      |
| RS-2, HFE-90, HFE-150, HFE-300, CRS-2P (formerly CRSP), HFRS-2P (formerly HFP), CRS-2, HFRS-2         | Bituminous Surface Treatment                    |
| CQS-1hP (formerly CSS-1h Latex Modified)  | Micro-Surfacing<br>Slurry Sealing<br>Cape Seal™ |

80415

**HOT-MIX ASPHALT – BINDER AND SURFACE COURSE (BDE)**

Effective: July 2, 2019  
 Revised: November 1, 2019

Description. This work shall consist of constructing a hot-mix asphalt (HMA) binder and/or surface course on a prepared base. Work shall be according to Sections 406 and 1030 of the Standard Specifications, except as modified herein.

Materials. Add the following after the second paragraph of Article 1003.03(c):

“For mixture IL-9.5FG, at least 67 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, steel slag sand, or combinations thereof meeting FA 20 gradation.”

Revise Article 1004.03(c) to read:

“(c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

| Use                   | Size/Application       | Gradation No.                |
|-----------------------|------------------------|------------------------------|
| Class A-1, A-2, & A-3 | 3/8 in. (10 mm) Seal   | CA 16 or CA 20               |
| Class A-1             | 1/2 in. (13 mm) Seal   | CA 15                        |
| Class A-2 & A-3       | Cover Coat             | CA 14                        |
| HMA High ESAL         | IL-19.0                | CA 11 <sup>1/</sup>          |
|                       | SMA 12.5 <sup>2/</sup> | CA 13, CA 14, or CA 16       |
|                       | SMA 9.5 <sup>2/</sup>  | CA 13 or CA 16 <sup>3/</sup> |
|                       | IL-9.5                 | CA 16                        |
|                       | IL-9.5FG               | CA 16                        |
| HMA Low ESAL          | IL-19.0L               | CA 11 <sup>1/</sup>          |
|                       | IL-9.5L                | CA 16                        |

1/ CA 16 or CA 13 may be blended with the CA 11.

2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ The specified coarse aggregate gradations may be blended.”

HMA Nomenclature. Revise the “High ESAL” portion of the table in Article 1030.01 to read:

|            |                |   |
|------------|----------------|---|
| “High ESAL | Binder Courses | IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, SMA 9.5 |
|------------|----------------|---|

|  |                 |   |
|--|-----------------|---|
|  | Surface Courses | IL-9.5, IL-9.5FG,<br>SMA 12.5, SMA 9.5” |
|--|-----------------|---|

Mixture Design. Revise the table in Article 1030.04(a)(1) and add SMA 9.5 and IL-9.5FG mixture compositions as follows:

| “HIGH ESAL, MIXTURE COMPOSITION (% PASSING) <sup>1/</sup> |                        |                    |                       |                    |          |      |
|---|------------------------|--------------------|-----------------------|--------------------|----------|------|
| Sieve Size  | SMA 12.5 <sup>5/</sup> |                    | SMA 9.5 <sup>5/</sup> |                    | IL-9.5FG |      |
|   | min.                   | max.               | min.                  | max.               | min.     | max. |
| 1 in.<br>(25 mm)  |                        |                    |                       |                    |          |      |
| 3/4 in.<br>(19 mm)  |                        | 100                |                       | 100                |          |      |
| 1/2 in.<br>(12.5 mm)                                      | 90                     | 99                 | 95                    | 100                |          | 100  |
| 3/8 in.<br>(9.5 mm)                                       | 50                     | 85                 | 70                    | 95                 | 90       | 100  |
| #4<br>4.75 mm)  | 20                     | 40                 | 30                    | 50                 | 60       | 75   |
| #8<br>(2.36 mm)   | 16                     | 24 <sup>4/</sup>   | 20                    | 30                 | 45       | 60   |
| #16<br>(1.18 mm)  |                        |                    |                       | 21                 | 25       | 40   |
| #30<br>(600 μm)   |                        |                    |                       | 18                 | 15       | 30   |
| #50<br>(300 μm)   |                        |                    |                       | 15                 | 8        | 15   |
| #100<br>(150 μm)  |                        |                    |                       |                    | 6        | 10   |
| #200<br>(75 μm)   | 8.0                    | 11.0 <sup>3/</sup> | 8.0                   | 11.0 <sup>3/</sup> | 4.0      | 6.5  |
| #635<br>(20 μm)   |                        | ≤ 3.0              |                       | ≤ 3.0              |          |      |
| Ratio of<br>Dust/Asphalt<br>Binder                        |                        |                    |                       |                    |          | 1.0  |

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with N<sub>design</sub> = 90.

- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ When establishing the adjusted job mix formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above 24 percent.
- 5/ When the bulk specific gravity (Gsb) of the component aggregates vary by more than 0.2, the blend gradations shall be based on volumetric percentage.”

Revise the table in Article 1030.04(b)(1) to read:

| “VOLUMETRIC REQUIREMENTS, High ESAL |   |                    |                       |   |
|-------------------------------------|---|--------------------|-----------------------|---|
| Ndesign                             | Voids in the Mineral Aggregate (VMA), % minimum |                    |                       | Voids Filled with Asphalt Binder (VFA), % |
|                                     | IL-19.0   | IL-9.5<br>IL-9.5FG | IL-4.75 <sup>1/</sup> |   |
| 50                                  | 13.5  | 15.0               | 18.5                  | 65 - 78 <sup>2/</sup>                     |
| 70                                  |   |                    | 65 – 75 <sup>3/</sup> |   |
| 90                                  |   |                    |                       |   |

- 1/ Maximum draindown for IL-4.75 shall be 0.3 percent.
- 2/ VFA for IL-4.75 shall be 76-83 percent.
- 3/ VFA for IL-9.5FG shall be 65-78 percent.”

Revise the table in Article 1030.04(b)(3) to read:

| “VOLUMETRIC REQUIREMENTS, SMA 12.5 <sup>1/</sup> and SMA 9.5 <sup>1/</sup> |         |                            |  |                                    |
|--|---------|----------------------------|--|------------------------------------|
| ESALs (million)  | Ndesign | Design Air Voids Target, % | Voids in the Mineral Aggregate (VMA), % min. | Voids Filled with Asphalt (VFA), % |
| ≤ 10   | 50      | 4.0                        | 16.0   | 75 – 80                            |
| > 10   | 80      | 4.0                        | 17.0   | 75 – 80                            |

- 1/ Maximum draindown shall be 0.3 percent.”

Quality Control/Quality Assurance (QC/QA). Revise the third paragraph of Article 1030.05(d)(3) to read:

“If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the



QC/QA document "Determination of Random Density Test Site Locations". Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure."

Add the following paragraphs to the end of Article 1030.05(d)(3):

"Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement). Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed."

Revise the second table in Article 1030.05(d)(4) and its notes to read:

| "DENSITY CONTROL LIMITS |                    |   |  |
|-------------------------|--------------------|---|--|
| Mixture Composition     | Parameter          | Individual Test (includes confined edges) | Unconfined Edge Joint Density, minimum |
| IL-4.75                 | Ndesign = 50       | 93.0 – 97.4 % <sup>1/</sup>               | 91.0%                                  |
| IL-9.5FG                | Ndesign = 50 - 90  | 93.0 – 97.4 %                             | 91.0%                                  |
| IL-9.5                  | Ndesign = 90       | 92.0 – 96.0 %                             | 90.0%                                  |
| IL-9.5, IL-9.5L,        | Ndesign < 90       | 92.5 – 97.4 %                             | 90.0%                                  |
| IL-19.0                 | Ndesign = 90       | 93.0 – 96.0 %                             | 90.0%                                  |
| IL-19.0, IL-19.0L       | Ndesign < 90       | 93.0 <sup>2/</sup> – 97.4 %               | 90.0%                                  |
| SMA                     | Ndesign = 50 or 80 | 93.5 – 97.4 %                             | 91.0%                                  |

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0 % when placed as first lift on an unimproved subgrade.”

Equipment. Add the following to Article 1101.01 of the Standard Specifications:

“(h) Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

- (1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm);
- (2) The minimum length of the drum(s) shall be 57 in. (1480 mm);
- (3) The minimum unit static force on the drum(s) shall be 125 lb/in. (22 N/m); and
- (4) The minimum force on the oscillatory drum shall be 18,000 lb (80 kN).”

CONSTRUCTION REQUIREMENTS

Add the following to Article 406.03 of the Standard Specifications:

“(j) Oscillatory Roller ..... 1101.01”

Revise the third paragraph of Article 406.05(a) to read:

“All depressions of 1 in. (25 mm) or more in the surface of the existing pavement shall be filled with binder. At locations where heavy disintegration and deep spalling exists, the area shall be cleaned of all loose and unsound material, tacked, and filled with binder (hand method).”

Revise Article 406.05(c) to read.

“(c) Binder (Hand Method). Binder placed other than with a finishing machine will be designated as binder (hand method) and shall be compacted with a roller to the satisfaction of the Engineer. Hand tamping will be permitted when approved by the Engineer.”

Revise the special conditions for mixture IL-4.75 in Article 406.06(b)(2)e. to read:

“e. The mixture shall be overlaid within 5 days of being placed.”

Revise Article 406.06(d) to read:

“(d) Lift Thickness. The minimum compacted lift thickness for HMA binder and surface courses shall be as follows.

| MINIMUM COMPACTED LIFT THICKNESS |  |
|----------------------------------|--|
| Mixture Composition              | Thickness, in. (mm)  |
| IL-4.75                          | 3/4 (19) - over HMA surfaces <sup>1/</sup><br>1 (25) - over PCC surfaces <sup>1/</sup> |
| IL-9.5FG                         | 1 1/4 (32)   |
| IL-9.5, IL-9.5L                  | 1 1/2 (38)   |
| SMA 9.5                          | 1 1/2 (38)   |
| SMA 12.5                         | 2 (51)   |
| IL-19.0, IL-19.0L                | 2 1/4 (57)   |

1/ The maximum compacted lift thickness for mixture IL-4.75 shall be 1 1/4 in. (32 mm).”

Revise Table 1 and Note 3/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

| “TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA |  |   |   |  |
|--|--|---|---|--|
|  | Breakdown Roller<br>(one of the<br>following)  | Intermediate<br>Roller                            | Final Roller<br>(one or more of<br>the following)                 | Density<br>Requirement   |
| Binder and Surface <sup>1/</sup>               | V <sub>D</sub> , P <sup>3/</sup> , T <sub>B</sub> , 3W,<br>O <sub>T</sub> , O <sub>B</sub> | P <sup>3/</sup> , O <sub>T</sub> , O <sub>B</sub> | V <sub>S</sub> , T <sub>B</sub> , T <sub>F</sub> , O <sub>T</sub> | As specified in<br>Articles:<br>1030.05(d)(3),<br>(d)(4), and<br>(d)(7). |
| IL-4.75 and SMA <sup>4/ 5/</sup>               | T <sub>B</sub> , 3W, O <sub>T</sub>  | --  | T <sub>F</sub> , 3W, O <sub>T</sub>                               |  |
| Bridge Decks <sup>2/</sup>                     | T <sub>B</sub>   | --  | T <sub>F</sub>  | As specified in<br>Articles 582.05<br>and 582.06.                        |

3/ A vibratory roller (V<sub>D</sub>) or oscillatory roller (O<sub>T</sub> or O<sub>B</sub>) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.”

Add the following to EQUIPMENT DEFINITION in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

“O<sub>T</sub> - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O<sub>B</sub> - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m).”

Basis of Payment. Replace the second through the fifth paragraphs of Article 406.14 with the following:

“HMA binder and surface courses will be paid for at the contract unit price per ton (metric ton) for MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS; HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the Ndesign specified; HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and Ndesign specified; HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition, friction aggregate, and Ndesign specified.”

80416

## **MOBILIZATION (BDE)**

Effective: April 1, 2020

Replace Articles 671.02(a), (b), and (c) of the Standard Specifications with the following:

“(a) Upon execution of the contract, 90 percent of the pay item will be paid.

(b) When 90 percent of the adjusted contract value is earned, the remaining ten percent of the pay item will be paid along with any amount bid in excess of six percent of the original contract amount.”

80428

## RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (BDE)

Effective: November 1, 2012

Revised: January 2, 2021

Revise Section 1031 of the Standard Specifications to read:

### **“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

**1031.01 Description.** Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material produced by cold milling or crushing an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). RAS is the material produced from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material by weight of RAS, as defined in the Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”. RAS shall come from a facility source on the Department’s “Qualified Producer List of Certified Sources for Reclaimed Asphalt Shingles” where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 93 percent passing the #4 (4.75 mm) sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
  - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
  - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

**1031.02 Stockpiles.** RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual RAP stockpiles meeting one of the following definitions. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type as listed below (i.e. “Homogeneous Surface”).

Prior to milling, the Contractor shall request the Department provide documentation on the quality of the RAP to clarify the appropriate stockpile.

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. FRAP shall be fractionated prior to testing by screening into a minimum of two size fractions with the separation occurring on or between the No. 4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mixture composition of the mix design.
- (2) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogeneous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. Conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag.
- (4) Conglomerate "D" Quality (Conglomerate DQ). Conglomerate DQ RAP stockpiles shall be according to Articles 1031.02(a)(1)-1031.02(a)(3), except they may also consist of RAP from HMA shoulders, bituminous stabilized subbases, or HMA (High or Low ESAL) binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP/FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, non-bituminous surface treatment (i.e. high friction surface treatments), pavement fabric, joint sealants, plant cleanout, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise specified by the Engineer, mechanically blending manufactured sand (FM 20 or FM 22) or fine FRAP up to an equal weight of RAS with the processed RAS will be permitted to improve workability. The sand shall be B quality or better from an

approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

Additional processed RAP/FRAP/RAS shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the original stockpile after the test results for the working pile are found to meet the requirements specified in Articles 1031.03 and 1031.04.

**1031.03 Testing.** RAP/FRAP and RAS testing shall be according to the following.

(a) RAP/FRAP Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during or after stockpiling.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2,000 tons (1,800 metric tons) and one sample per 2,000 tons (1,800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4,000 tons (3,600 metric tons).

(2) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the Department proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Each sample shall be split to obtain two equal samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall perform a washed extraction on the other test sample according to Illinois Modified AASHTO T 164. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS or RAS blended with manufactured sand shall be sampled and tested during stockpiling according to the Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Source".

Samples shall be collected during stockpiling at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1,000 tons (900 metric tons) and one sample per 500 tons (450 metric tons) or a minimum of once per week, whichever is more frequent, thereafter. A minimum of five samples are required for stockpiles less than 1,000 tons (900 metric tons).

Before testing, each sample shall be split to obtain two test samples. One of the two test samples from the final split shall be labeled and stored for Department use. The



Contractor shall perform a washed extraction and test for unacceptable materials on the other test sample according to Illinois Modified AASHTO T 164. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

The Contractor shall obtain and make available all of the test results from the start of the original stockpile.

**1031.04 Evaluation of Tests.** Evaluation of test results shall be according to the following.

- (a) Limits of Precision. The limits of precision between the Contractor's and the Department's split sample test results shall be according to the following.

| Test Parameter    | Limits of Precision |       |       |
|-------------------|---------------------|-------|-------|
|                   | RAP                 | FRAP  | RAS   |
| % Passing         |                     |       |       |
| 1/2 in. (12.5 mm) | 6.0 %               | 5.0 % |       |
| # 4 (4.75 mm)     | 6.0 %               | 5.0 % |       |
| # 8 (2.36 mm)     | 4.0 %               | 3.0 % | 4.0 % |
| # 30 (600 µm)     | 3.0 %               | 2.0 % | 4.0 % |
| # 200 (75 µm)     | 2.5 %               | 2.2 % | 4.0 % |
| Asphalt Binder    | 0.4 %               | 0.3 % | 3.0 % |
| G <sub>mm</sub>   | 0.035               | 0.030 |       |

If the test results are outside the above limits of precision, the Department will immediately investigate.

- (b) Evaluation of RAP/FRAP Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation, and when applicable G<sub>mm</sub>. Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

| Parameter         | FRAP/Homogeneous/<br>Conglomerate |
|-------------------|-----------------------------------|
| 1 in. (25 mm)     |                                   |
| 1/2 in. (12.5 mm) | ± 8 %                             |
| # 4 (4.75 mm)     | ± 6 %                             |
| # 8 (2.36 mm)     | ± 5 %                             |
| # 16 (1.18 mm)    |                                   |
| # 30 (600 µm)     | ± 5 %                             |
| # 200 (75 µm)     | ± 2.0 %                           |
| Asphalt Binder    | ± 0.4 % <sup>1/</sup>             |
| G <sub>mm</sub>   | ± 0.03 <sup>2/</sup>              |

1/ The tolerance for FRAP shall be ± 0.3 percent.

- 2/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Aggregate Bulk (Dry) Specific Gravity (Gsb) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)".

If more than 20 percent of the test results for an individual parameter (individual sieves,  $G_{mm}$ , and/or asphalt binder content) are out of the above tolerances, the RAP/FRAP shall not be used in HMA unless the RAP/FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the Department for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for solvent extractions according to the document "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

- (c) Evaluation of RAS and RAS Blended with Manufactured Sand or Fine FRAP Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. Individual test results, when compared to the averages, will be accepted if within the tolerances listed below.

| Parameter              | RAS     |
|------------------------|---------|
| # 8 (2.36 mm)          | ± 5 %   |
| # 16 (1.18 mm)         | ± 5 %   |
| # 30 (600 µm)          | ± 4 %   |
| # 200 (75 µm)          | ± 2.5 % |
| Asphalt Binder Content | ± 2.0 % |

If more than 20 percent of the test results for an individual parameter (individual sieves and/or asphalt binder content) are out of the above tolerances, or if the unacceptable material exceeds 0.5 percent by weight of material retained on the No. 4 (4.75 mm) sieve, the RAS or RAS blend shall not be used in Department projects. All test data and acceptance ranges shall be sent to the Department for evaluation.

#### **1031.05 Quality Designation of Aggregate in RAP/FRAP.**

- (a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate DQ stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.
- (1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
  - (2) RAP from Class I binder, HMA (High ESAL) binder, or (Low ESAL) IL-19.0L binder mixtures are designated as containing Class C quality coarse aggregate.

(3) RAP from BAM stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Coarse and fine FRAP stockpiles containing plus No. 4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate sample to the District Office. Consultant laboratory services will be at no additional cost to the Department. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

**1031.06 Use of RAP/FRAP and/or RAS in HMA.** The use of RAP/FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

(a) RAP/FRAP. The use of RAP/FRAP in HMA shall be as follows.

(1) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

(2) Steel Slag Stockpiles. Homogeneous RAP stockpiles containing steel slag will be approved for use in all HMA (High ESAL and Low ESAL) surface and binder mixture applications.

(3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. FRAP from conglomerate stockpiles shall be considered equivalent to limestone for frictional considerations. Known frictional contributions from plus No. 4 (4.75 mm) homogeneous FRAP stockpiles will be accounted for in meeting frictional requirements in the specified mixture.

(4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.

(5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, or conglomerate.

- (6) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in Article 1031.06(c)(1) below for a given Ndesign.
- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
- (c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.
- (1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement (ABR) shall not exceed the amounts listed in the following table.

| HMA Mixtures - RAP/RAS Maximum ABR % <sup>1/2/</sup> |        |         |                                    |
|--|--------|---------|------------------------------------|
| Ndesign  | Binder | Surface | Polymer Modified Binder or Surface |
| 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).

- (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 % <sup>1/2/</sup> |        |         |                                    |
|---|--------|---------|------------------------------------|
| Ndesign   | Binder | Surface | Polymer Modified Binder or Surface |
| 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).

**1031.07 HMA Mix Designs.** At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

- (a) RAP/FRAP and/or RAS. RAP/FRAP and/or RAS mix designs shall be submitted for verification. If additional RAP/FRAP and/or RAS stockpiles are tested and found that no more than 20 percent of the individual parameter test results, as defined in Article 1031.04, are outside of the control tolerances set for the original RAP/FRAP and/or RAS stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP and/or RAS stockpiles may be used in the original mix design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP, and RAS stone bulk specific gravities ( $G_{sb}$ ) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity ( $G_{sb}$ ) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

**1031.08 HMA Production.** HMA production utilizing RAP/FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAP/FRAP and/or RAS feed system to remove or reduce oversized material.

If the RAP/FRAP and/or RAS control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP and/or RAS and either switch to the virgin aggregate design or submit a new mix design.

- (a) RAP/FRAP. The coarse aggregate in all RAP/FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.
- (b) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within

± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.

(c) RAP/FRAP and/or RAS. HMA plants utilizing RAP/FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAP/FRAP/RAS in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.
- h. Aggregate and RAP/FRAP/RAS moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP/RAS are recorded in a wet condition.)
- i. A positive dust control system shall be utilized when the combined contribution of reclaimed material passing the No. 200 sieve exceeds 1.5 percent.

(2) Batch Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- d. Mineral filler weight to the nearest pound (kilogram).
- e. RAP/FRAP/RAS weight to the nearest pound (kilogram).

- f. Virgin asphalt binder weight to the nearest pound (kilogram).
- g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

**1031.09 RAP in Aggregate Applications.** RAP in aggregate applications shall be according to the Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications" and the following.

- (a) RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B. The use of RAP in aggregate surface course (temporary access entrances only) and aggregate wedge shoulders, Type B shall be as follows.
  - (1) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply.
  - (2) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted.
- (b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Article 1031.06, except "Conglomerate DQ" and "Non-Quality" may be used."

80306

## REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2019

Revised: January 1, 2020

Revise Section 669 of the Standard Specifications to read:

### “SECTION 669. REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

**669.01 Description.** This work shall consist of the transportation and proper disposal of regulated substances. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their contents and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.

**669.02 Equipment.** The Contractor shall notify the Engineer of the delivery of all excavation, storage, and transportation equipment to a work area location. The equipment shall comply with OSHA and American Petroleum Institute (API) guidelines and shall be furnished in a clean condition. Clean condition means the equipment does not contain any residual material classified as a non-special waste, non-hazardous special waste, or hazardous waste. Residual materials include, but are not limited to, petroleum products, chemical products, sludges, or any other material present in or on equipment.

Before beginning any associated soil or groundwater management activity, the Contractor shall provide the Engineer with the opportunity to visually inspect and approve the equipment. If the equipment contains any contaminated residual material, decontamination shall be performed on the equipment as appropriate to the regulated substance and degree of contamination present according to OSHA and API guidelines. All cleaning fluids used shall be treated as the contaminant unless laboratory testing proves otherwise.

**669.03 Pre-Construction Submittals and Qualifications.** Prior to beginning this work, or working in areas with regulated substances, the Contractor shall submit a “Regulated Substances Pre-Construction Plan (RSPCP)” to the Engineer for review and approval using form BDE 2730. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

As part of the RSPCP, the Contractor(s) or firm(s) performing the work shall meet the following qualifications.

- (a) Regulated Substances Monitoring. Qualification for environmental observation and field screening of regulated substances work and environmental observation of UST removal shall require either pre-qualification in Hazardous Waste by the Department or demonstration of acceptable project experience in remediation and operations for contaminated sites in accordance with applicable Federal, State, or local regulatory requirements using BDE 2730.



Qualification for each individual performing regulated substances monitoring shall require a minimum of one-year of experience in similar activities as those required for the project.

- (b) Underground Storage Tank Removal. Qualification for underground storage tank (UST) removal work shall require licensing and certification with the Office of the State Fire Marshall (OSFM) and possession of all permits required to perform the work. A copy of the permit shall be provided to the Engineer prior to tank removal.

The qualified Contractor(s) or firm(s) shall also document it does not have any current or former ties with any of the properties contained within, adjoining, or potentially affecting the work.

The Engineer will require up to 21 calendar days for review of the RSPCP. The review may involve rejection or revision and resubmittal; in which case, an additional 21 days will be required for each subsequent review. Work shall not commence until the RSPCP has been approved by the Engineer. After approval, the RSPCP shall be revised as necessary to reflect changed conditions in the field and documented using BDE 2730A "Regulated Substances Pre-Construction Plan (RSPCP) Addendum" and submitted to the Engineer for approval.

## **CONSTRUCTION REQUIREMENTS**

**669.04 Regulated Substances Monitoring.** Regulated substances monitoring includes environmental observation and field screening during regulated substances management activities at the contract specific work areas. As part of the regulated substances monitoring, the monitoring personnel shall perform and document the applicable duties listed on form BDE 2732 "Regulated Substances Monitoring Daily Record (RSMDR)".

- (a) Environmental Observation. Prior to beginning excavation, the Contractor shall mark the limits of the contract specific work areas. Once work begins, the monitoring personnel shall be present on-site continuously during the excavation and loading of material.
- (b) Field Screening. Field screening shall be performed during the excavation and loading of material from the contract specific work areas, except for material classified according to Article 669.05(b)(1) or 669.05(c) where field screening is not required.

Field screening shall be performed with either a photoionization detector (PID) (minimum 10.6eV lamp) or a flame ionization detector (FID), and other equipment as appropriate, to monitor for potential contaminants associated with regulated substances. The PID or FID shall be calibrated on-site, and background level readings taken and recorded daily, and as field and weather conditions change. Field screen readings on the PID or FID in excess of background levels indicates the potential presence of regulated substances requiring handling as a non-special waste, special waste, or hazardous waste. PID or FID readings may be used as the basis of increasing the limits of removal with the approval of the Engineer but shall in no case be used to decrease the limits.

**669.05 Regulated Substances Management and Disposal.** The management and disposal of soil and/or groundwater containing regulated substances shall be according to the following:

- (a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in soil established pursuant to Subpart F of 35 Ill. Adm. Code 1100.605, the soil shall be managed as follows:
  - (1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC, but still considered within area background levels by the Engineer, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable. If the soils cannot be utilized within the right-of-way, they shall be managed and disposed of at a landfill as a non-special waste.
  - (2) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County identified in 35 Ill. Admin. Code 742 Appendix A. Table G, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of at a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO) within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
  - (3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site at a CCDD facility or an USFO within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
  - (4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site at a CCDD facility or an USFO within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
  - (5) When the Engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4) above and the materials do not contain special waste or hazardous waste, as determined by the Engineer, the soil shall be managed and disposed of at a landfill as a non-special waste.
  - (6) When analytical results indicate soil is hazardous by characteristic or listing pursuant to 35 Ill. Admin. Code 721, contains radiological constituents, or the Engineer otherwise determines the soil cannot be managed according to Articles 669.05(a)(1)

through (a)(5) above, the soil shall be managed and disposed of off-site as a special waste or hazardous waste as applicable.

(b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.

(1) The pH of the soil is less than 6.25 or greater than 9.0.

(2) The soil exhibited PID or FID readings in excess of background levels.

(c) Soil Analytical Results Exceed Most Stringent MAC but Do Not Exceed Tiered Approach to Corrective Action Objectives (TACO) Residential. When the soil analytical results indicate that detected levels exceed the most stringent MAC but do not exceed TACO Tier 1 Soil Remediation Objectives for Residential Properties pursuant to 35 Ill. Admin. Code 742 Appendix B Table A, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO.

(d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Ill. Admin. Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste or hazardous waste as applicable. Special waste groundwater shall be containerized and trucked to an off-site treatment facility, or may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority. Groundwater discharged to a sanitary sewer or combined sewer shall be pre-treated to remove particulates and measured with a calibrated flow meter to comply with applicable discharge limits. A copy of the permit shall be provided to the Engineer prior to discharging groundwater to the sanitary sewer or combined sewer.

Groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench, it may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority, or it shall be containerized and trucked to an off-site treatment facility as a special waste or hazardous waste. The Contractor is prohibited from discharging groundwater within the trench through a storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive

soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than  $10^{-7}$  cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer.

The Contractor shall use due care when transferring contaminated material from the area of origin to the transporter. Should releases of contaminated material to the environment occur (i.e., spillage onto the ground, etc.), the Contractor shall clean-up spilled material and place in the appropriate storage containers as previously specified. Clean-up shall include, but not be limited to, sampling beneath the material staging area to determine complete removal of the spilled material.

The Contractor shall provide engineered barriers, when required, and shall include materials sufficient to completely line excavation surfaces, including sloped surfaces, bottoms, and sidewall faces, within the areas designated for protection.

The Contractor shall obtain all documentation including any permits and/or licenses required to transport the material containing regulated substances to the disposal facility. The Contractor shall coordinate with the Engineer on the completion of all documentation. The Contractor shall make all arrangements for collection and analysis of landfill acceptance testing. The Contractor shall coordinate waste disposal approvals with the disposal facility.

The Contractor shall provide the Engineer with all transport-related documentation within two days of transport or receipt of said document(s). For management of special or hazardous waste, the Contractor shall provide the Engineer with documentation that the Contractor is operating with a valid Illinois special waste transporter permit at least two weeks before transporting the first load of contaminated material.

Transportation and disposal of material classified according to Article 669.05(a)(5) or 669.05(a)(6) shall be completed each day so that none of the material remains on-site by the close of business, except when temporary staging has been approved.

Any waste generated as a special or hazardous waste from a non-fixed facility shall be manifested off-site using the Department's county generator number provided by the Bureau of Design and Environment. An authorized representative of the Department shall sign all manifests for the disposal of the contaminated material and confirm the Contractor's transported volume. Any waste generated as a non-special waste may be managed off-site without a manifest, a special waste transporter, or a generator number.

The Contractor shall select a landfill permitted for disposal of the contaminant within the State of Illinois. The Department will review and approve or reject the facility proposed by the Contractor to use as a landfill. The Contractor shall verify whether the selected disposal facility is compliant with those applicable standards as mandated by their permit and whether the disposal facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The use of a Contractor selected landfill shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.

**669.06 Non-Special Waste Certification.** An authorized representative of the Department shall sign and date all non-special waste certifications. The Contractor shall be responsible for providing the Engineer with the required information that will allow the Engineer to certify the waste is not a special waste.

(a) Definition. A waste is considered a non-special waste as long as it is not:

- (1) a potentially infectious medical waste;
- (2) a hazardous waste as defined in 35 Ill. Admin. Code 721;
- (3) an industrial process waste or pollution control waste that contains liquids, as determined using the paint filter test set forth in subdivision (3)(A) of subsection (m) of 35 Ill. Admin. Code 811.107;
- (4) a regulated asbestos-containing waste material, as defined under the National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 61.141;
- (5) a material containing polychlorinated biphenyls (PCB's) regulated pursuant to 40 CFR Part 761;
- (6) a material subject to the waste analysis and recordkeeping requirements of 35 Ill. Admin. Code 728.107 under land disposal restrictions of 35 Ill. Admin. Code 728;
- (7) a waste material generated by processing recyclable metals by shredding and required to be managed as a special waste under Section 22.29 of the Environmental Protection Act; or
- (8) an empty portable device or container in which a special or hazardous waste has been stored, transported, treated, disposed of, or otherwise handled.

(b) Certification Information. All information used to determine the waste is not a special waste shall be attached to the certification. The information shall include but not be limited to:

- (1) the means by which the generator has determined the waste is not a hazardous waste;
- (2) the means by which the generator has determined the waste is not a liquid;
- (3) if the waste undergoes testing, the analytic results obtained from testing, signed and dated by the person responsible for completing the analysis;
- (4) if the waste does not undergo testing, an explanation as to why no testing is needed;

(5) a description of the process generating the waste; and

(6) relevant material safety data sheets.

**669.07 Temporary Staging.** Soil classified according to Articles 669.05(a)(2), (b)(1), or (c) may be temporarily staged at the Contractor's option. Soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) shall be managed and disposed of without temporary staging to the greatest extent practicable. If circumstances beyond the Contractor's control require temporary staging of these latter materials, the Contractor shall request approval from the Engineer in writing.

Temporary staging shall be accomplished within the right-of-way and the Contractor's means and methods shall be described in the approved or amended RSPCP. Staging areas shall not be located within 200 feet (61 m) of a public or private water supply well; nor within 100 feet (30 m) of sensitive environmental receptor areas, including wetlands, rivers, streams, lakes, or designated habitat zones.

The method of staging shall consist of containerization or stockpiling as applicable for the type, classification, and physical state (i.e., liquid, solid, semisolid) of the material. Materials of different classifications shall be staged separately with no mixing or co-mingling.

When containers are used, the containers and their contents shall remain intact and inaccessible to unauthorized persons until the manner of disposal is determined. The Contractor shall be responsible for all activities associated with the storage containers including, but not limited to, the procurement, transport, and labeling of the containers. The Contractor shall not use a storage container if visual inspection of the container reveals the presence of free liquids or other substances that could cause the waste to be reclassified as a hazardous or special waste.

When stockpiles are used, they shall be covered with a minimum 20-mil plastic sheeting or tarps secured using weights or tie-downs. Perimeter berms or diversionary trenches shall be provided to contain and collect for disposal any water that drains from the soil. Stockpiles shall be managed to prevent or reduce potential dust generation.

When staging non-special waste, special waste, or hazardous waste, the following additional requirements shall apply:

- (a) **Non-Special Waste.** When stockpiling soil classified according to Article 669.05(a)(1) or 669.05(a)(5), an impermeable surface barrier between the materials and the ground surface shall be installed. The impermeable barrier shall consist of a minimum 20-mil plastic liner material and the surface of the stockpile area shall be clean and free of debris prior to placement of the liner. Measures shall also be taken to limit or discourage access to the staging area.
- (b) **Special Waste and Hazardous Waste.** Soil classified according to Article 669.05(a)(6) shall not be stockpiled but shall be containerized immediately upon generation in containers, tanks or containment buildings as defined by RCRA, Toxic Substances Control

Act (TSCA), and other applicable State or local regulations and requirements, including 35 Ill. Admin. Code Part 722, Standards Applicable to Generators of Hazardous Waste.

The staging area(s) shall be enclosed (by a fence or other structure) to restrict direct access to the area, and all required regulatory identification signs applicable to a staging area containing special waste or hazardous waste shall be deployed.

Storage containers shall be placed on an all-weather gravel-packed, asphalt, or concrete surface. Containers shall be in good condition and free of leaks, large dents, or severe rusting, which may compromise containment integrity. Containers must be constructed of, or lined with, materials that will not react or be otherwise incompatible with the hazardous or special waste contents. Containers used to store liquids shall not be filled more than 80 percent of the rated capacity. Incompatible wastes shall not be placed in the same container or comingled.

All containers shall be legibly labeled and marked using pre-printed labels and permanent marker in accordance with applicable regulations, clearly showing the date of waste generation, location and/or area of waste generation, and type of waste. The Contractor shall place these identifying markings on an exterior side surface of the container.

Storage containers shall be kept closed, and storage pads covered, except when access is needed by authorized personnel.

Special waste and hazardous waste shall be transported and disposed within 90 days from the date of generation.

**669.08 Underground Storage Tank Removal.** For the purposes of this section, an underground storage tank (UST) includes the underground storage tank, piping, electrical controls, pump island, vent pipes and appurtenances.

Prior to removing an UST, the Engineer shall determine whether the Department is considered an "owner" or "operator" of the UST as defined by the UST regulations (41 Ill. Adm. Code Part 176). Ownership of the UST refers to the Department's owning title to the UST during storage, use or dispensing of regulated substances. The Department may be considered an "operator" of the UST if it has control of, or has responsibility for, the daily operation of the UST. The Department may however voluntarily undertake actions to remove an UST from the ground without being deemed an "operator" of the UST.

In the event the Department is deemed not to be the "owner" or "operator" of the UST, the OSFM removal permit shall reflect who was the past "owner" or "operator" of the UST. If the "owner" or "operator" cannot be determined from past UST registration documents from OSFM, then the OSFM removal permit will state the "owner" or "operator" of the UST is the Department. The Department's Office of Chief Counsel (OCC) will review all UST removal permits prior to submitting any removal permit to the OSFM. If the Department is not the "owner" or "operator" of the UST then it will not register the UST or pay any registration fee.

The Contractor shall be responsible for obtaining permits required for removing the UST, notification to the OSFM, using an OSFM certified tank contractor, removal and disposal of the UST and its contents, and preparation and submittal of the OSFM Site Assessment Report in accordance with 41 Ill. Admin. Code Part 176.330.

The Contractor shall contact the Engineer and the OSFM's office at least 72 hours prior to removal to confirm the OSFM inspector's presence during the UST removal. Removal, transport, and disposal of the UST shall be according to the applicable portions of the latest revision of the "American Petroleum Institute (API) Recommended Practice 1604".

The Contractor shall collect and analyze tank content (sludge) for disposal purposes. The Contractor shall remove as much of the regulated substance from the UST system as necessary to prevent further release into the environment. All contents within the tank shall be removed, transported and disposed of, or recycled. The tank shall be removed and rendered empty according to IEPA definition.

The Contractor shall collect soil samples from the bottom and sidewalls of the excavated area in accordance with 35 Ill. Admin. Code Part 734.210(h) after the required backfill has been removed during the initial response action, to determine the level of contamination remaining in the ground, regardless if a release is confirmed or not by the OSFM on-site inspector.

In the event the UST is designated a leaking underground storage tank (LUST) by the OSFM's inspector, or confirmation by analytical results, the Contractor shall notify the Engineer and the District Environmental Studies Unit (DESU). Upon confirmation of a release of contaminants and notifications to the Engineer and DESU, the Contractor shall report the release to the Illinois Emergency Management Agency (IEMA) (e.g., by telephone or electronic mail) and provide them with whatever information is available ("owner" or "operator" shall be stated as the past registered "owner" or "operator", or the IDOT District in which the tank is located and the DESU Manager).

The Contractor shall perform the following initial response actions if a release is indicated by the OSFM inspector:

- (a) Take immediate action to prevent any further release of the regulated substance to the environment, which may include removing, at the Engineer's discretion, and disposing of up to 4 ft (1.2 m) of the contaminated material, as measured from the outside dimension of the tank;
- (b) Identify and mitigate fire, explosion and vapor hazards;
- (c) Visually inspect any above ground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and groundwater; and
- (d) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors and free product that have migrated from the tank excavation zone and entered into subsurface structures (such as sewers or basements).



The tank excavation shall be backfilled according to applicable portions of Sections 205, 208, and 550 with a material that will compact and develop stability. All uncontaminated concrete and soil removed during tank extraction may be used to backfill the excavation, at the discretion of the Engineer.

After backfilling the excavation, the site shall be graded and cleaned.

**669.09 Regulated Substances Final Construction Report.** Not later than 90 days after completing this work, the Contractor shall submit a “Regulated Substances Final Construction Report (RSFCR)” to the Engineer using form BDE 2733 and required attachments. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

**669.10 Method of Measurement.** Non-special waste, special waste, and hazardous waste soil will be measured for payment according to Article 202.07(b) when performing earth excavation, Article 502.12(b) when excavating for structures, or by computing the volume of the trench using the maximum trench width permitted and the actual depth of the trench.

Groundwater containerized and transported off-site for management, storage, and disposal will be measured for payment in gallons (liters).

Backfill plugs will be measured in cubic yards (cubic meters) in place, except the quantity for which payment will be made shall not exceed the volume of the trench, as computed by using the maximum width of trench permitted by the Specifications and the actual depth of the trench, with a deduction for the volume of the pipe.

Engineered Barriers will be measured for payment in square yards (square meters).

**669.11 Basis of Payment.** The work of preparing, submitting and administering a Regulated Substances Pre-Construction Plan will be paid for at the contract lump sum price for REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN.

Regulated substances monitoring, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day, or fraction thereof to the nearest 0.5 calendar day, for REGULATED SUBSTANCES MONITORING.

The installation of engineered barriers will be paid for at the contract unit price per square yard (square meter) for ENGINEERED BARRIER.

The work of UST removal, soil excavation, soil and content sampling, the management of excavated soil and UST content, and UST disposal, will be paid for at the contract unit price per each for UNDERGROUND STORAGE TANK REMOVAL.

The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for

**NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.**

The transportation and disposal of groundwater from an excavation determined to be contaminated will be paid for at the contract unit price per gallon (liter) for SPECIAL WASTE GROUNDWATER DISPOSAL or HAZARDOUS WASTE GROUNDWATER DISPOSAL. When groundwater is discharged to a sanitary or combined sewer by permit, the cost will be paid for according to Article 109.05.

Backfill plugs will be paid for at the contract unit price per cubic yard (cubic meter) for BACKFILL PLUGS.

Payment for temporary staging of soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) will be paid for according to Article 109.04. The Department will not be responsible for any additional costs incurred, if mismanagement of the staging area, storage containers, or their contents by the Contractor results in excess cost expenditure for disposal or other material management requirements.

Payment for accumulated stormwater removal and disposal will be according to Article 109.04. Payment will only be allowed if appropriate stormwater and erosion control methods were used.

Payment for decontamination, labor, material, and equipment for monitoring areas beyond the specified areas, with the Engineer's prior written approval, will be according to Article 109.04.

When the waste material for disposal requires sampling for landfill disposal acceptance, the samples shall be analyzed for TCLP VOCs, SVOCs, RCRA metals, pH, ignitability, and paint filter test. The analysis will be paid for at the contract unit price per each for SOIL DISPOSAL ANALYSIS using EPA Methods 1311 (extraction), 8260B for VOCs, 8270C for SVOCs, 6010B and 7470A for RCRA metals, 9045C for pH, 1030 for ignitability, and 9095A for paint filter.

The work of preparing, submitting and administering a Regulated Substances Final Construction Report will be paid for at the contract lump sum price REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT."

80407

## **SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)**

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

**“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.**  
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

## **SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)**

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

| Value of Subcontract Reported on Form BC 260A | Mobilization Percentage |
|---|-------------------------|
| Less than \$10,000                            | 25%                     |
| \$10,000 to less than \$20,000                | 20%                     |
| \$20,000 to less than \$40,000                | 18%                     |
| \$40,000 to less than \$60,000                | 16%                     |
| \$60,000 to less than \$80,000                | 14%                     |
| \$80,000 to less than \$100,000               | 12%                     |
| \$100,000 to less than \$250,000              | 10%                     |
| \$250,000 to less than \$500,000              | 9%                      |
| \$500,000 to \$750,000                        | 8%                      |
| Over \$750,000                                | 7%”                     |

80391

## **TRAFFIC CONTROL DEVICES - CONES (BDE)**

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

“(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.”

Revise Article 1106.02(b) of the Standard Specifications to read:

“(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer’s specifications such that they are not moved by wind or passing traffic.”

80409

## **WEEKLY DBE TRUCKING REPORTS (BDE)**

Effective: June 2, 2012

| Revised: April 2, 2015

| The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

| The report shall be submitted to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

80302

## WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports ..... 1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

“**701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

“**1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact

attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”

80427



**WORKING DAYS (BDE)**

Effective: January 1, 2002

The Contractor shall complete the work within 30 working days.

80071

FEDERAL AID PROJECT

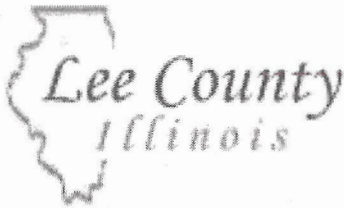
FAS 177 (SHAW ROAD)  
SECTION # 20-00344-00-RS

PROJECT # 9T32(510)

LEE COUNTY

JOB # C92-038-20

CONTRACT # 85710

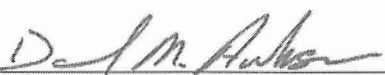


Approved  
  
 County Engineer

Passed 1/7 2021  
  
 District Engineer of Local Roads and Streets

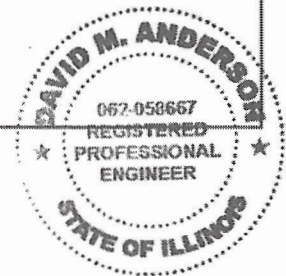
Released for Bid Based on Limited Review  
1/7 2021  
  
 District Engineer  
 Illinois Department of Transportation

These Plans were prepared by me or a full-time member of my staff working under my personal supervision.

P.E. 

Date: 01/04/2021

License Expires 11/30/2021



FEDERAL AID PROJECT

FAS 177 (SHAW ROAD)  
SECTION # 20-00344-00-RS

PROJECT # 9T32(510)

LEE COUNTY

JOB # C92-038-20

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INDEX TO SHEETS

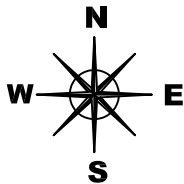
- |                                |                                 |
|--------------------------------|---------------------------------|
| 1. SIGNATURE SHEET             |                                 |
| 2. TITLE SHEET                 |                                 |
| 3. SUMMARY OF QUANTITIES       |                                 |
| 4. LOCATION MAP                |                                 |
| 5. PAVEMENT QUANTITIES         |                                 |
| 6. TYPICAL SHAW ROAD X-SECTION | FAS 177, SHAW ROAD              |
| 7. TYPICAL SIDE ROAD           |                                 |
| 8. TYPICAL ENTRANCES           | FAS 179 (BROOKLYN RD) to IL 251 |
| 9. TYPICAL MAILBOX TURNOUT     |                                 |
| 10. 701006-05                  | ADT 650                         |
| 11. 701011-04                  |                                 |
| 12. 701301-04                  |                                 |
| 13. 701306-04                  |                                 |
| 14. 701311-03                  | RURAL MAJOR COLLECTOR           |
| 15. 701901-08                  |                                 |
| 18. 720011-01                  |                                 |
| 19. 728001-01                  |                                 |
| 20. 7290001-01                 |                                 |
| 21. BLR 21-9                   |                                 |
| 22. BLR 22-7                   |                                 |



FAS 177 (Shaw Road)  
 Section # 20-00344-00-RS  
 Lee County  
 Project # 9T32(510)  
 Job # C92-038-20  
 Contract # 85710

SUMMARY OF QUANTITIES

| ITEM NUMBER | ITEM                                       | UNIT  | QUANTITY |
|-------------|--|-------|----------|
| 40600290    | Bituminous Materials (Tack Coat)           | POUND | 18497    |
| 40604000    | Hot-Mix Asphalt Surface Course Mix "C" N50 | TON   | 3649     |
| 48101200    | Aggregate Shoulders, Type B                | TON   | 1795     |
| 70300100    | Short Term Pavement Marking                | FOOT  | 1454     |
| 70300150    | Short Term Pavement Marking Removal        | SF    | 485      |
| LR400740    | Cold In-Place Recycling, 4"                | SY    | 40427    |
| LR400010    | CIR-Foamed Asphalt                         | TON   | 254      |
| 30201700    | Portland Cement                            | TON   | 104      |
| LR403300    | Surface Profile Milling                    | SY    | 40427    |
| 67100100    | Moblization                                | LSUM  | 1        |
| X7010216    | Traffic Control and Protection, Special    | LSUM  | 1        |



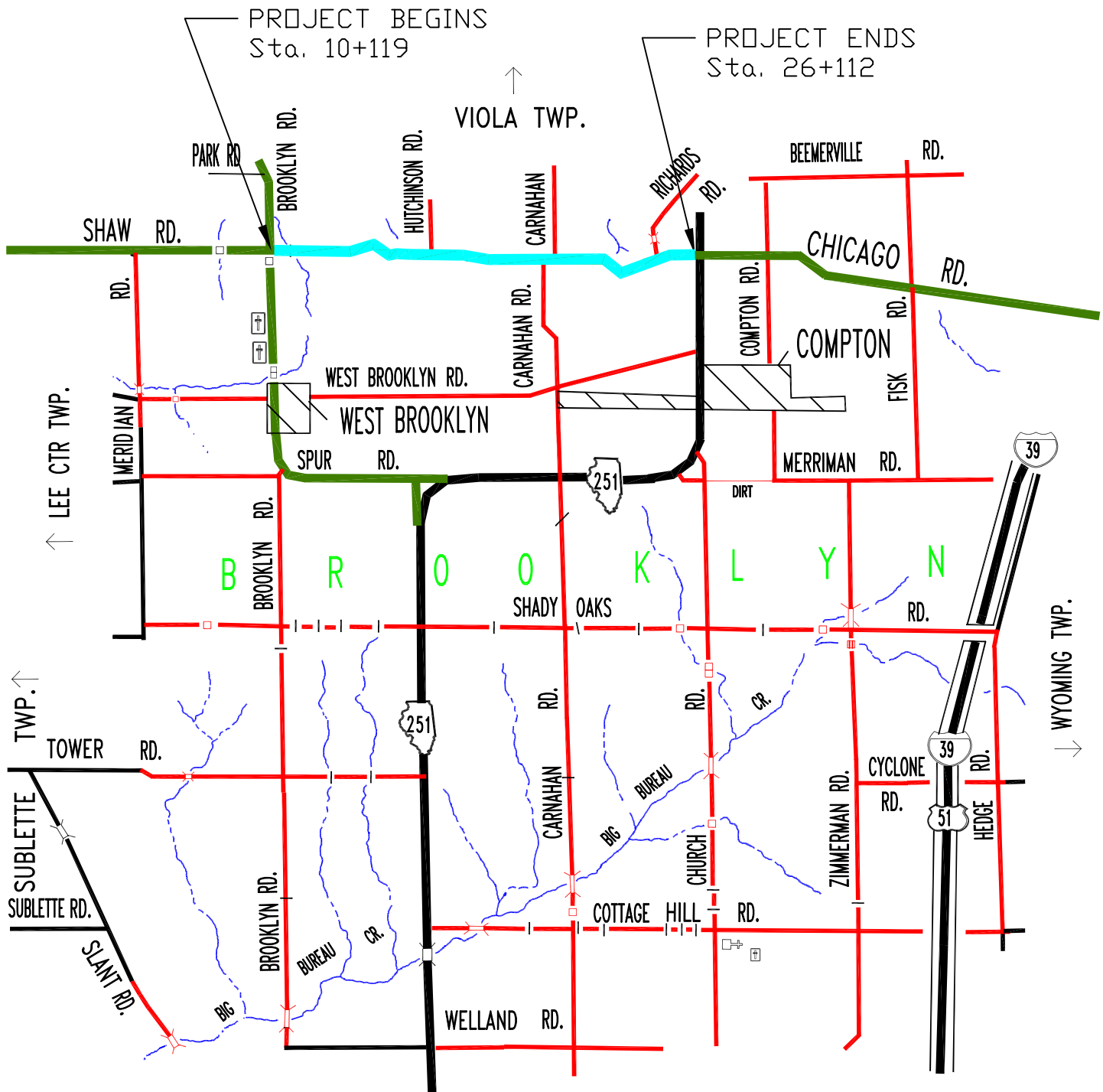
# LEE COUNTY

## SECTION 20-00344-00-RS

### LOCATION MAP

### BROOKLYN TOWNSHIP

|          |             |              |            |          |              |
|----------|-------------|--------------|------------|----------|--------------|
| Palmyra  | Dison       | Nachusa      | Ashton     | Reynolds | Alto         |
| Nelson   | South Dison | Paquin Grove | Bradford   | Viola    | Willow Creek |
| Harmon   | Marion      | Amboy        | Lee Center | Brooklyn | Wyoming      |
| Hamilton | East Grove  | May          | Sublette   |          |              |

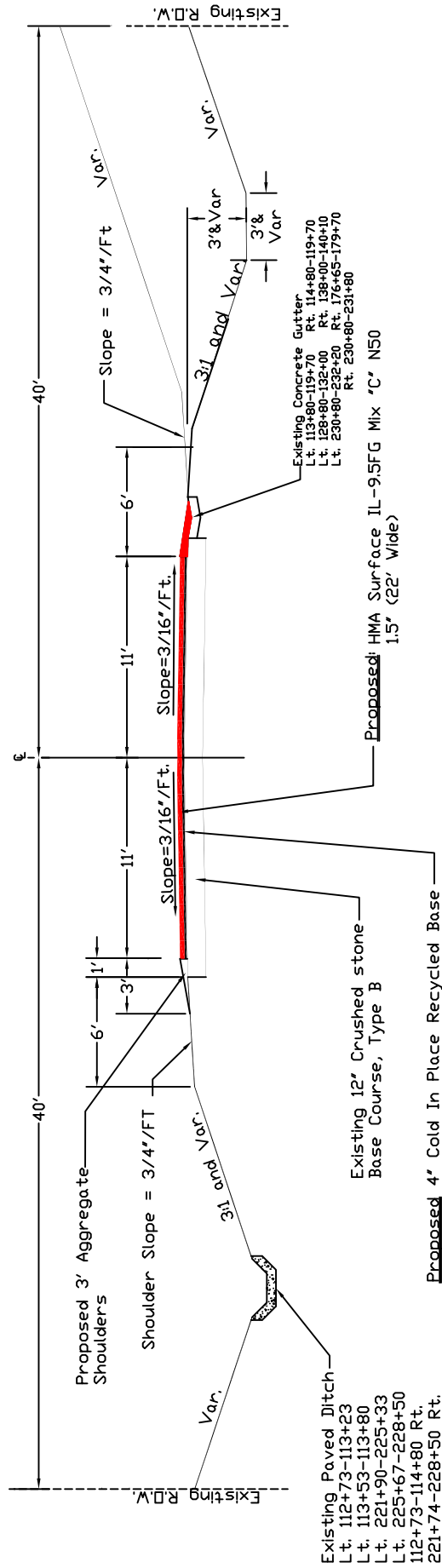


**JOB # C92-038-20**  
**PROJECT # 9T32(510)**  
**CONTRACT # 85710**  
**PROJECT LENGTH: 15,993 FEET, 3.03 MILES**

| 20-00344-00-RS                       |                       | 2021 BITUMINOUS RESURFACING  |                    |                            |                              | PAVEMENT QUANTITIES |                       |  |  |
|--------------------------------------|-----------------------|------------------------------|--------------------|----------------------------|------------------------------|---------------------|-----------------------|--|--|
| SHAW ROAD                            |                       | From Brooklyn Road to IL 251 |                    |                            |                              |                     |                       |  |  |
| LEE COUNTY HIGHWAY                   |                       |                              |                    |                            |                              |                     |                       |  |  |
| ROADWAY                              |                       |                              |                    |                            |                              |                     |                       |  |  |
| From Station                         | To Station            | Rd. Width<br>Feet            | SY                 | Surface<br>Depth<br>(in)   | Unit Wt.<br>Surface<br>lb/sy | Surface<br>Tons     | Agg<br>Shldrs<br>Tons |  |  |
| 10119                                | 26112                 | 22                           | 39,094             | 1.5                        | 178                          | 3,479               | 1,795                 |  |  |
| <b>MISC. HMA QUANTITIES</b>          |                       |                              |                    |                            |                              |                     |                       |  |  |
| <b>Entrance Type</b>                 | <b>Number</b>         | <b>SY/Entrance</b>           | <b>SY Total</b>    | <b>TTL Tons (Surf Cse)</b> |                              |                     |                       |  |  |
| Private Ent.                         | 24                    | 51                           | 1224               | 103                        |                              |                     |                       |  |  |
| Field Ent.                           | 33                    | 5                            | 165                | 14                         |                              |                     |                       |  |  |
| Mail Box                             | 18                    | 10                           | 180                | 15                         |                              |                     |                       |  |  |
| Side Road                            | 4                     | 110                          | 440                | 37                         |                              |                     |                       |  |  |
| Commercial & Tower                   |                       | 5                            | 0                  | 0                          |                              |                     |                       |  |  |
| Other Areas                          | N/A                   |                              | 0                  | 0                          |                              |                     |                       |  |  |
|                                      |                       |                              | 2009               | 169                        |                              |                     |                       |  |  |
| <b>PROJECT TOTALS</b>                |                       |                              |                    |                            |                              |                     |                       |  |  |
| <b>Bit Matl</b>                      | <b>Surface</b>        | <b>Project</b>               | <b>Short Term</b>  | <b>Agg</b>                 |                              |                     |                       |  |  |
| <b>Tack Coat</b>                     | <b>Course</b>         | <b>Total</b>                 | <b>Pavt Mk</b>     | <b>Shldrs</b>              |                              |                     |                       |  |  |
| <b>LBS</b>                           | <b>Tons</b>           | <b>Tons</b>                  | <b>Feet</b>        | <b>Tons</b>                |                              |                     |                       |  |  |
| <b>18,497</b>                        | <b>3,649</b>          | <b>3,649</b>                 | <b>1,454</b>       | <b>1,795</b>               |                              |                     |                       |  |  |
| <b>COLD IN PLACE RECYCLING (CIR)</b> |                       |                              |                    |                            |                              |                     |                       |  |  |
| <b>% by Weight</b>                   | <b>CIR Depth (in)</b> | <b>Density lb/in/S'</b>      | <b>Oil Density</b> |                            |                              |                     |                       |  |  |
| 2.8                                  | 4.00                  | 112.0                        | lbs/Ton            |                            |                              |                     |                       |  |  |
| <b>Foamed Asphalt Rate</b>           |                       |                              |                    |                            |                              |                     |                       |  |  |
|                                      | <b>Asphalt lbs/SY</b> |                              |                    |                            |                              |                     |                       |  |  |
|                                      | 12.544                |                              |                    |                            |                              |                     |                       |  |  |
| <b>Total Foamed Asphalt</b>          | <b>Road Length</b>    | <b>CIR Width</b>             | <b>CIR SY</b>      | <b>Total Tons</b>          |                              |                     |                       |  |  |
|                                      | 15993                 | 22.75                        | <b>40427</b>       | <b>254</b>                 |                              |                     |                       |  |  |
| <b>Cement Usage</b>                  |                       |                              |                    |                            |                              |                     |                       |  |  |
| <b>% by Weight</b>                   | <b>lb/in/SY</b>       | <b>Cement Lb/SY</b>          |                    |                            |                              |                     |                       |  |  |
| 1.0                                  | 128.0                 | 5.12                         |                    |                            |                              |                     |                       |  |  |
| <b>Total Cement (tons)</b>           |                       |                              |                    |                            |                              |                     |                       |  |  |
| <b>104</b>                           |                       |                              |                    |                            |                              |                     |                       |  |  |
| * Layers of HMA to be temp striped   |                       |                              |                    |                            |                              |                     |                       |  |  |

TYPICAL SECTION  
 Shaw Road

Sta. 101+19.00 to Sta. 182+43.49 Back  
 Sta. 182+45.54 Ahead to Sta. 261+12.30  
 Built as (83-00218-00-PP) & (01-00289-00-RS)

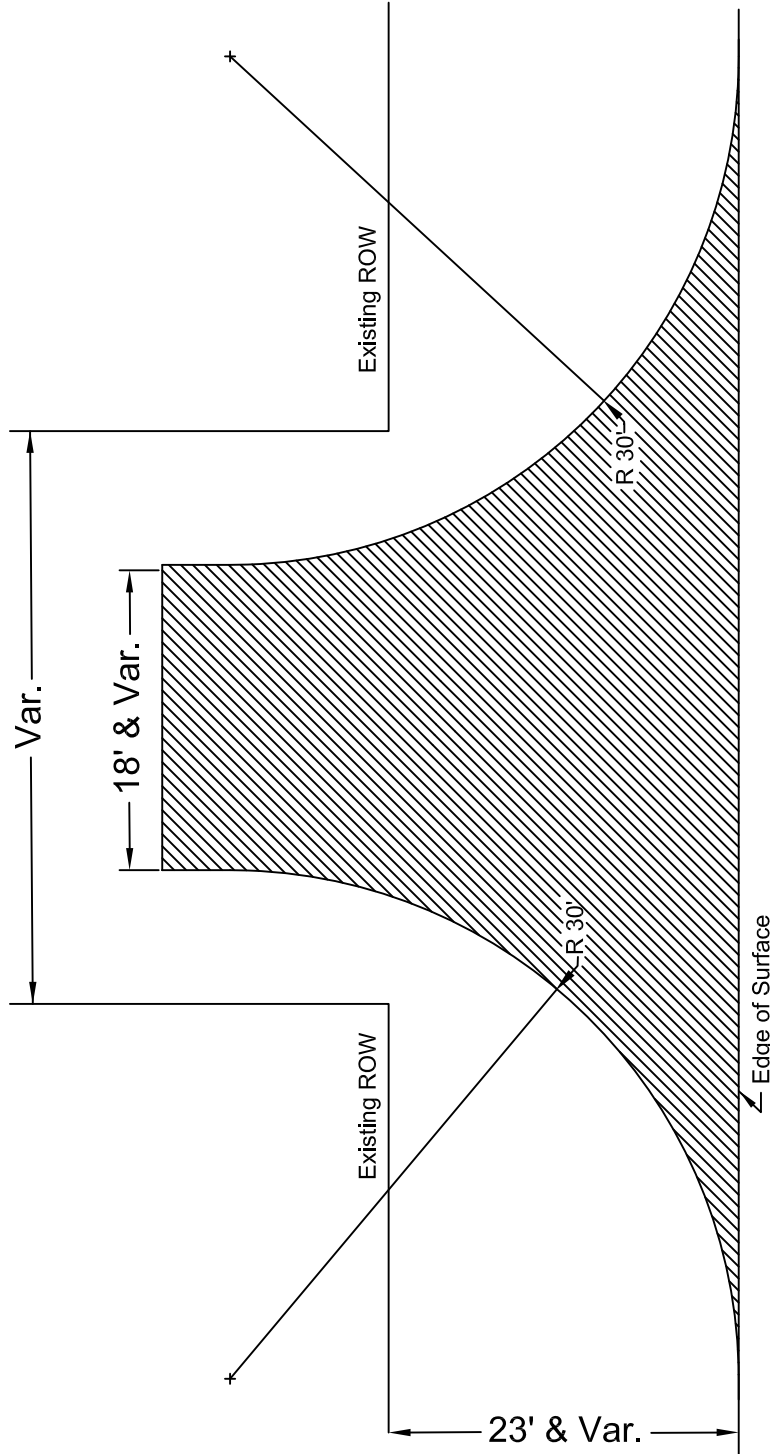


|   |                    |
|---|--------------------|
| Mixture Use:                            | Surface            |
| PG:                                     | PG 58-28           |
| Design Air Voids                        | 3.0 @ N50          |
| Mixture Composition (Gradation Mixture) | IL 9.5             |
| Friction Aggregate                      | C                  |
| Quality Management Program:             | QC/QA              |
| Mix Unit Weight                         | 112 LBS / SY / IN. |

**CONSTRUCTION NOTE:** THE THICKNESS OF THE BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

# TYPICAL SIDE ROAD

SEC. 20-00344-00-RS  
LEE COUNTY  
FAS 177 (SHAW ROAD)  
JOB # C92-038-20  
PROJECT # 9T32(510)  
CONTRACT # 85710

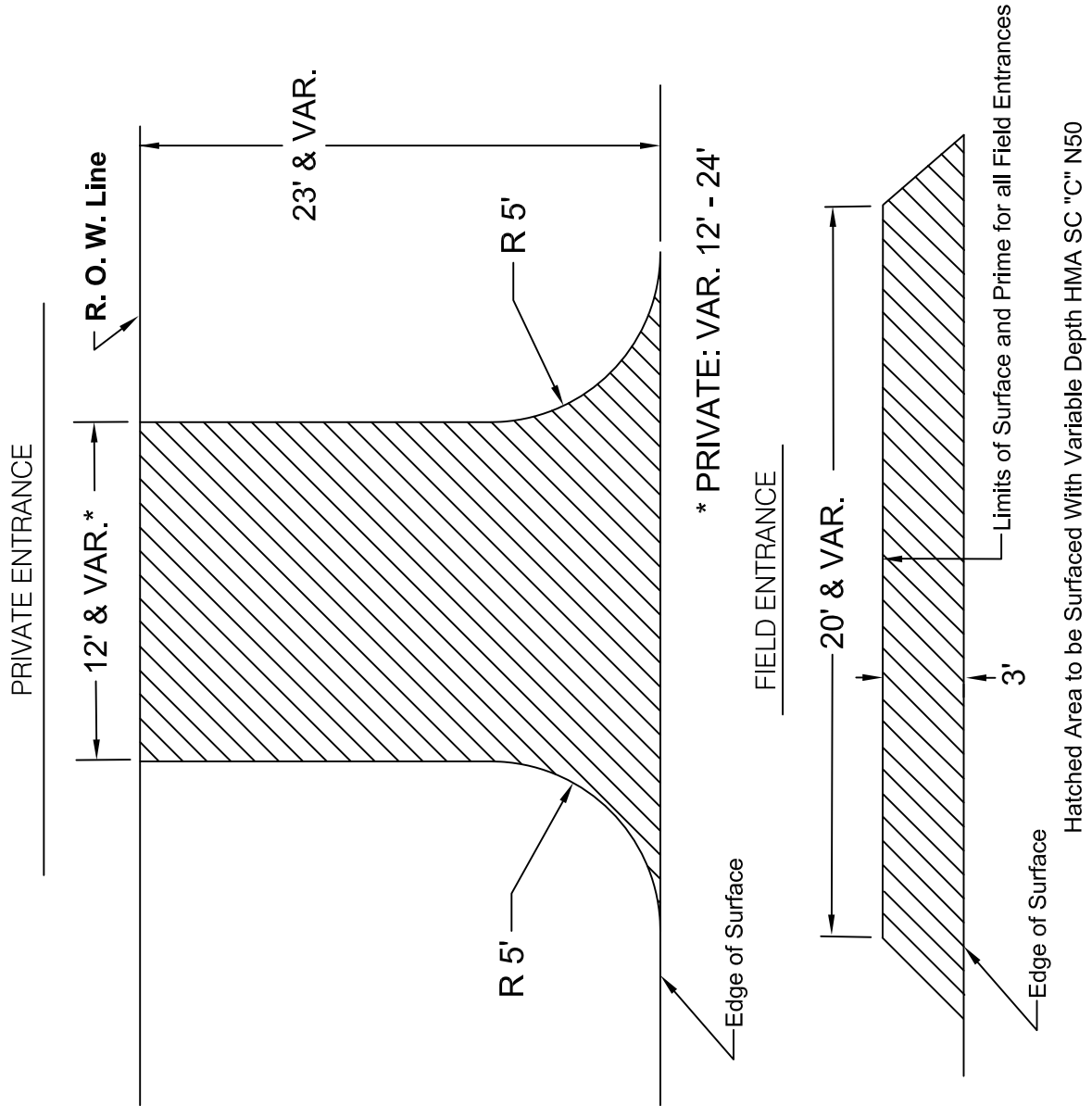


Hatched Area to be Surfaced With  
Variable Depth of HMA SC "C" N50



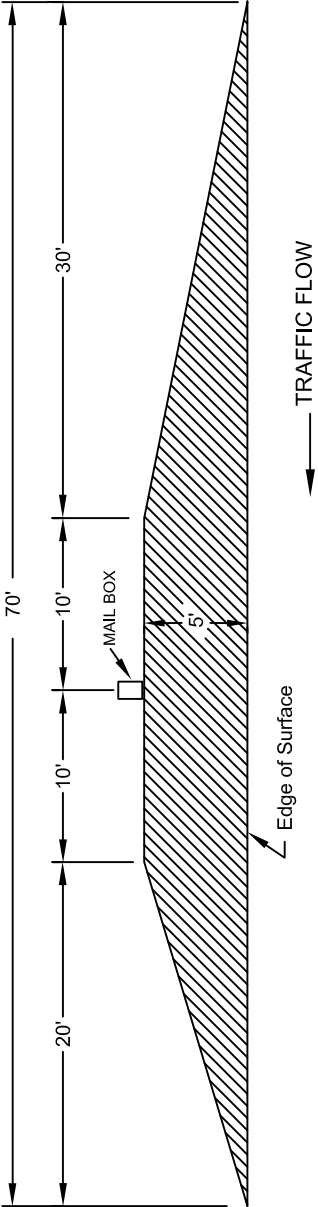
# TYPICAL ENTRANCES

SEC. 20-00344-00-RS  
 LEE COUNTY  
 FAS 177 (SHAW ROAD)  
 JOB # C92-038-20  
 PROJECT # 9T32(510)  
 CONTRACT # 85710

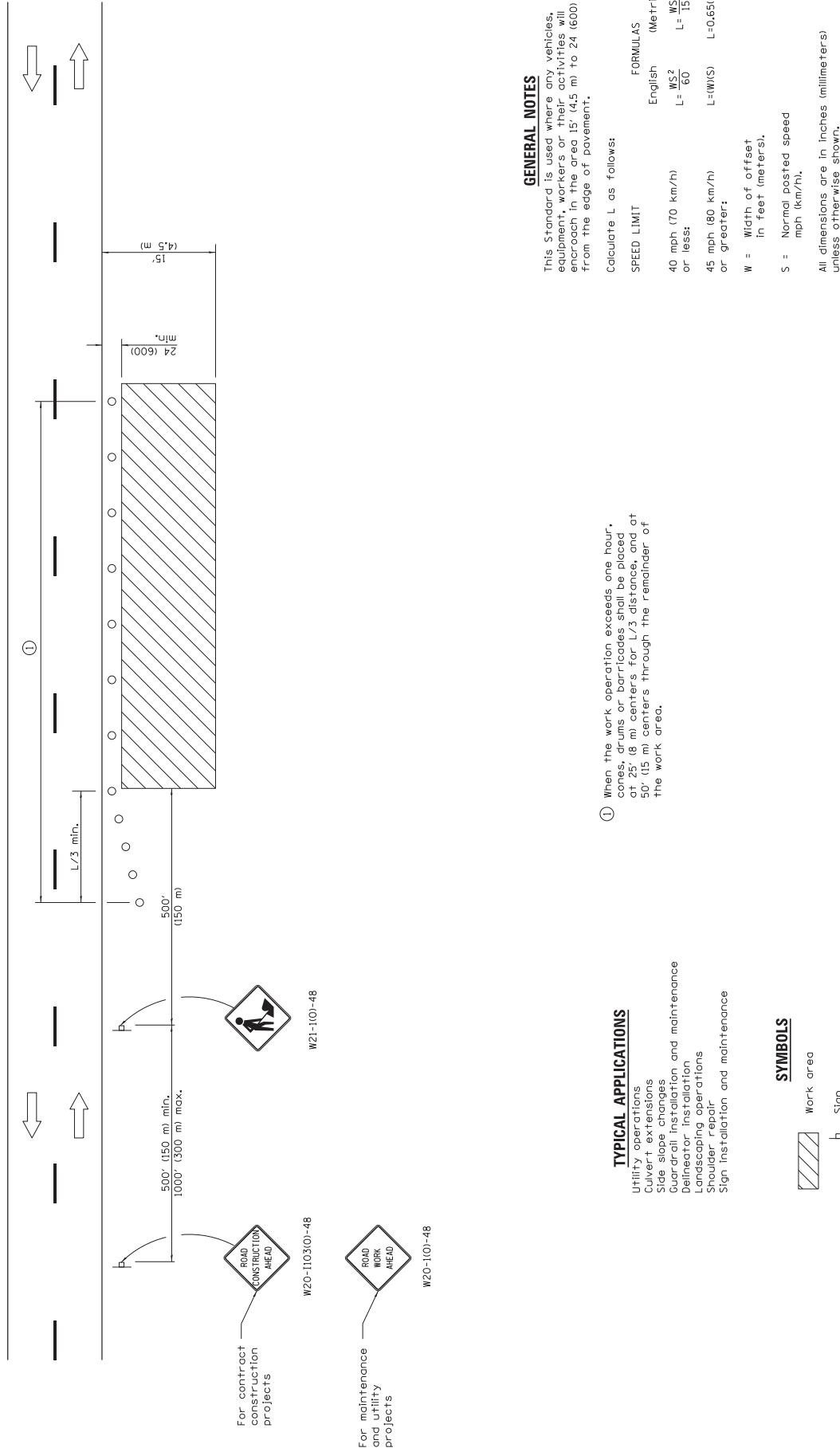


# TYPICAL MAIL BOX TURNOUT

SEC. 20-00344-00-RS  
LEE COUNTY  
FAS 177 (SHAW ROAD)  
JOB # C92-038-20  
PROJECT # 9T32(510)  
CONTRACT # 85710



Hatched Area to be Surfaced with  
Variable Depth of HMA SC "C" N50



For contract construction projects

For maintenance and utility projects

- TYPICAL APPLICATIONS**
- Utility operations
  - Culvert extensions
  - Side slope changes
  - Guardrail installation and maintenance
  - Delineator installation
  - Landscaping operations
  - Shoulder repair
  - Sign installation and maintenance

- SYMBOLS**
- Work area
  - Sign
  - Cone, drum or barricade

Illinois Department of Transportation  
 APPROVED: JONAS X. L. 2014  
 ENGINEER OF SAFETY ENGINEERING  
 APPROVED: JONAS X. L. 2014  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**GENERAL NOTES**

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24' (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT

| English                      | Metric                             |
|------------------------------|------------------------------------|
| 40 mph (70 km/h) or less:    | $L = \frac{WS^2}{60}$<br>$L = 150$ |
| 45 mph (80 km/h) or greater: | $L = (W/S)$<br>$L = 0.65(W/S)$     |

W = Width of offset in feet (meters).  
 S = Normal posted speed mph (km/h).

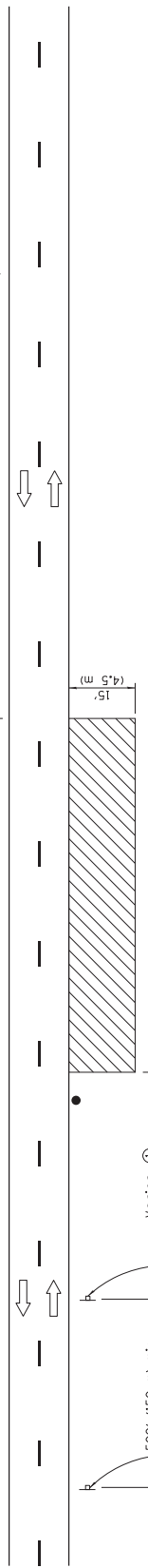
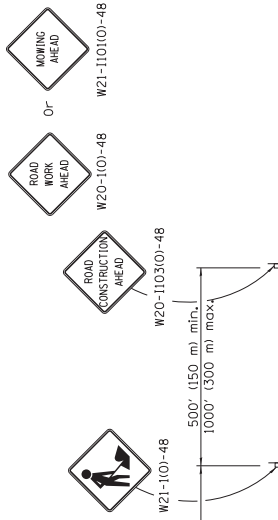
All dimensions are in inches (millimeters) unless otherwise shown.

**OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE**

STANDARD 701006-05

| DATE   | REVISIONS  |
|--------|--|
| 1-1-14 | Revised workers sign number to agree with current MUTCD. |
| 1-1-13 | Omitted text 'WORKERS' Sign.                             |

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.



For contract construction projects

For maintenance and utility projects

**TYPICAL APPLICATIONS**

Shoulder work  
Utility operations

① Minimum distance is 200' (60 m). Maximum distance to be determined by the Engineer but should not exceed 1/2 the length required for one normal working day's operation, or 4 miles (6.4 km) whichever is less.

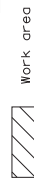
**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the shoulder, where the average speed is 1 mph (2 km/h) or less.

When the work operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

All dimensions are in inches (millimeters) unless otherwise shown.

**SYMBOLS**



Work area



Sign

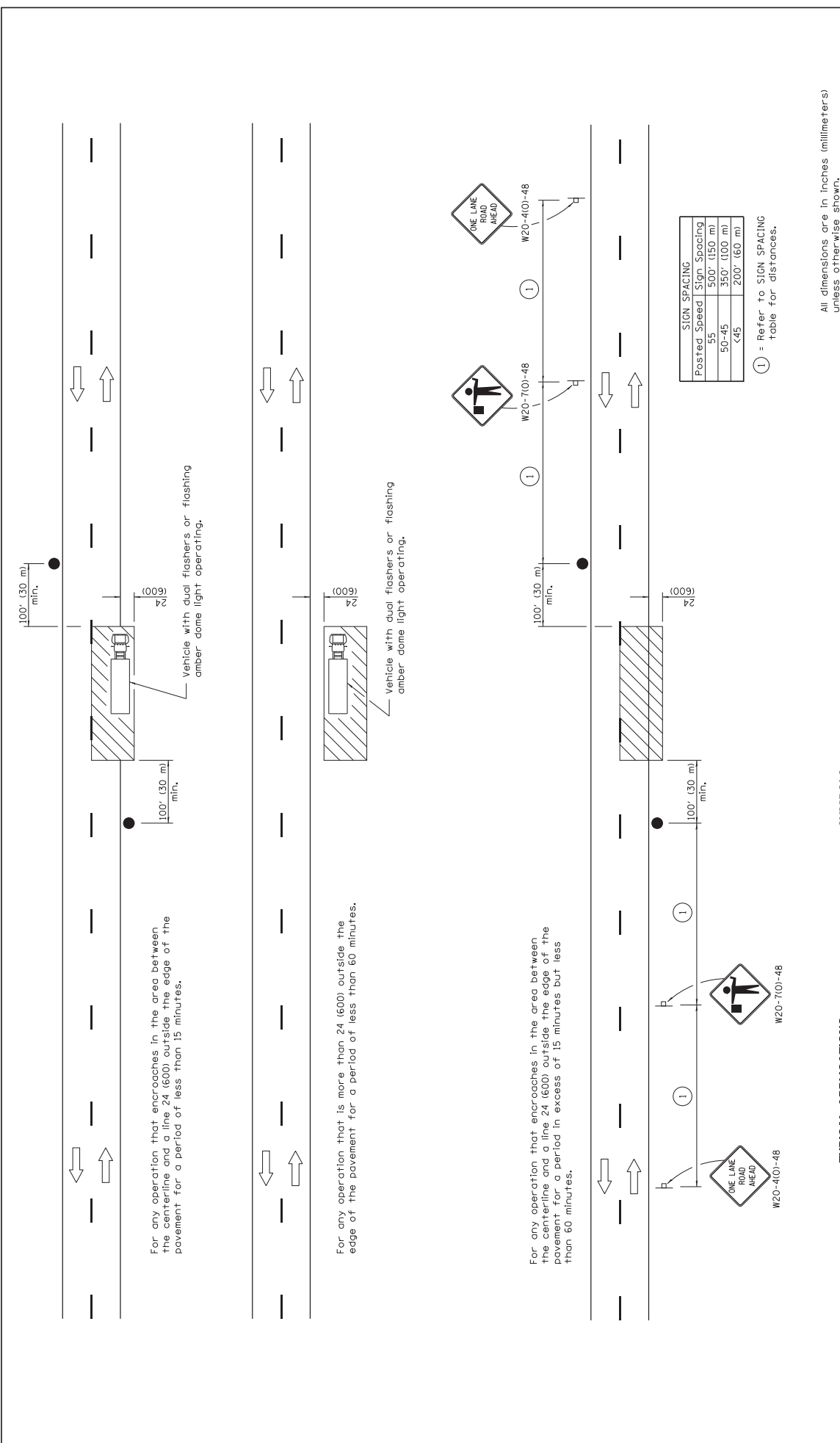
- Flagger with traffic control sign when required

| DATE   | REVISIONS  |
|--------|--|
| 1-1-14 | Revised workers sign number to agree with current MUTCD. |
| 1-1-13 | Omitted text 'WORKERS' sign.                             |

Illinois Department of Transportation  
 APPROVED: JONAS L. JONES, I. ENGINEER OF SAFETY ENGINEERING  
 APPROVED: JONAS L. JONES, I. ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97

**OFF-RD MOVING OPERATIONS,  
2L, 2W, DAY ONLY**

STANDARD 701011-04



For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period of less than 15 minutes.

For any operation that is more than 24 (600) outside the edge of the pavement for a period of less than 60 minutes.

For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.

| Posted Speed | Sign Spacing |
|--------------|--------------|
| 55           | 500' (150 m) |
| 50-45        | 350' (100 m) |
| <45          | 200' (60 m)  |

① = Refer to SIGN SPACING table for distances.

All dimensions are in inches (millimeters) unless otherwise shown.

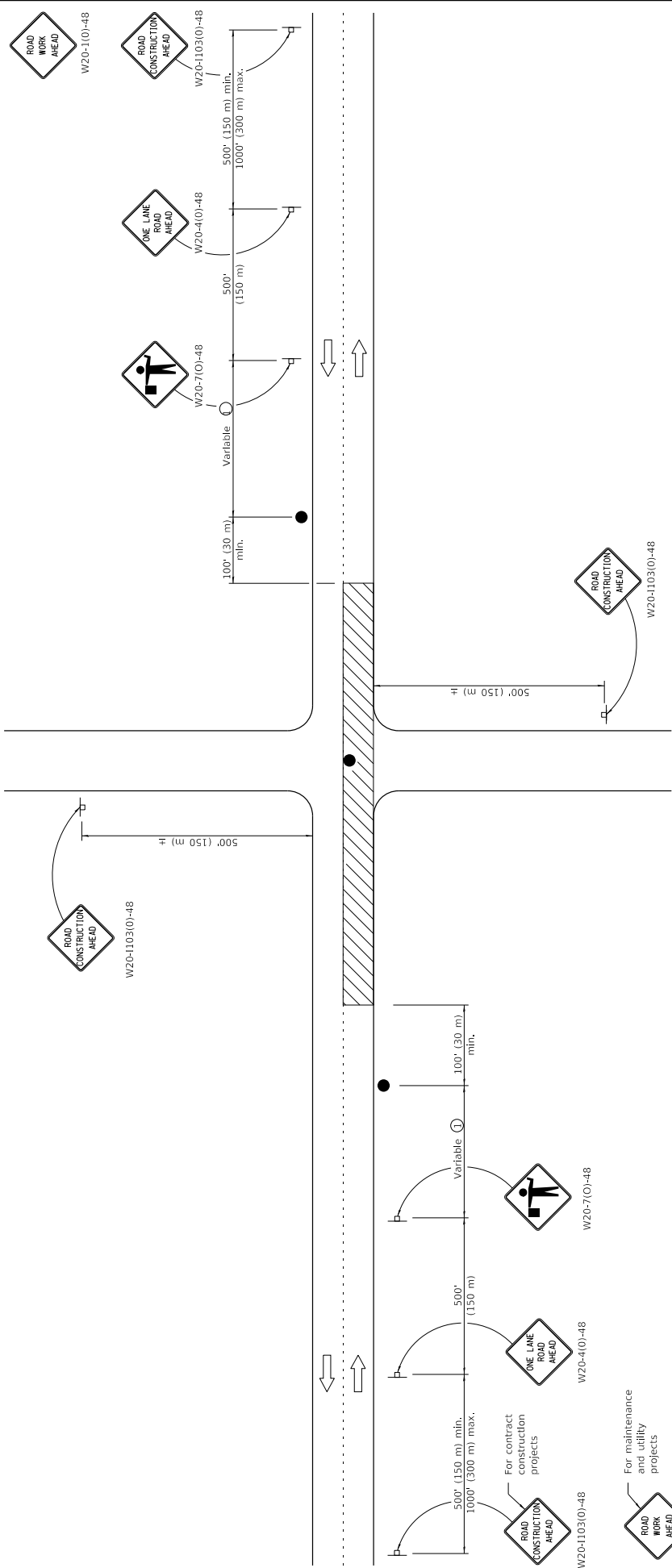
| DATE   | REVISIONS                         |
|--------|-----------------------------------|
| 1-1-11 | Revised flagger sign.             |
| 1-1-09 | Switched units to English metric. |

| TYPICAL APPLICATIONS           |                                       |
|--------------------------------|---------------------------------------|
| Marking patches                | Work area                             |
| Field survey                   | Sign on portable or permanent support |
| String line                    | ● Flagger with traffic control sign   |
| Utility operations             |                                       |
| Cleaning up debris on pavement |                                       |

|  |               |
|--|---------------|
| APPROVED<br>JANUARY 2011<br>ENGINEER OF SAFETY ENGINEERING     | ISSUED 1-1-97 |
| APPROVED<br>JANUARY 2011<br>ENGINEER OF DESIGN AND ENVIRONMENT |               |

**LANE CLOSURE, 2L, 2W,  
SHORT TIME OPERATIONS**

**STANDARD 701301-04**



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the pavement where the average speed of movement is greater than 1/2 mph (1 km/h) and less than 4 mph (6 km/h).  
 When the operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

All dimensions are in inches (millimeters) unless otherwise shown.

① Minimum distance is 200' (60 m). Maximum distance to be determined by the Engineer but should not exceed 1/2 the length required for one normal working days' operation or 2 miles (3200 m), whichever is less.

**TYPICAL APPLICATIONS**

- Bituminous resurfacing
- Milling operations
- Utility operations
- Shoulder operations

**SYMBOLS**

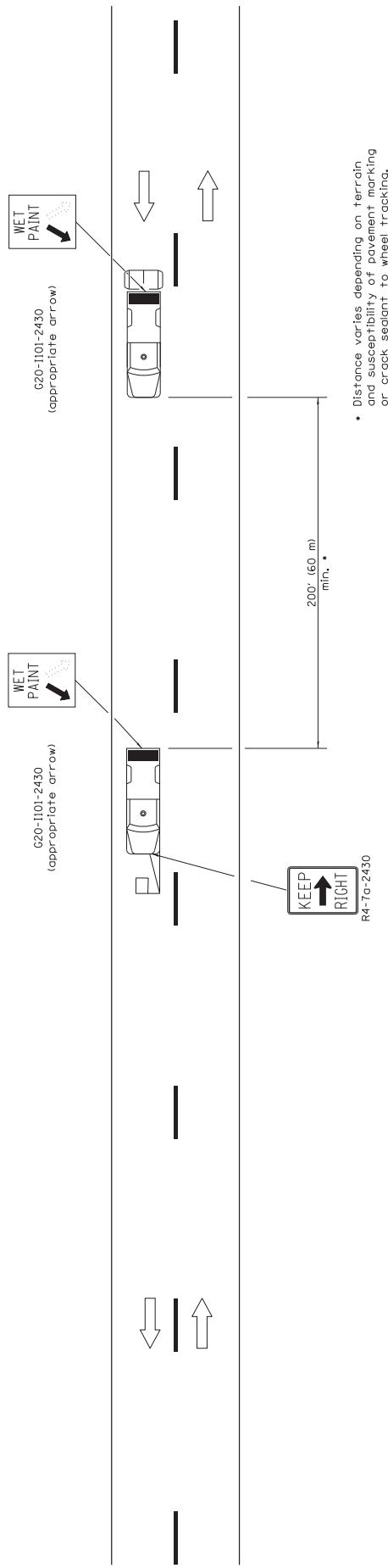
- Work area
- Sign on portable or permanent support
- Flagger with traffic control sign

| DATE   | REVISIONS   |
|--------|---|
| 1-1-18 | Revised lower speed limit for operation to 1/2 mph. |
| 1-1-11 | Revised flagger sign.                               |

**LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH**

STANDARD 701306-04

Illinois Department of Transportation  
 PASSED January 1, 2018  
 ENGINEER OF SAFETY PROCS. AND ENGINEERING  
 APPROVED January 1, 2018  
 ENGINEER OF DESIGN AND ENVIRONMENT



**TYPICAL APPLICATIONS**

- Landsliding work
- Utility work
- Pavement marking
- Seed spraying
- Recombiner measurements
- Debris cleanup
- Crack pouring

**SYMBOLS**

- Arrow board (Hazard Mode only)
- Truck with headlights, emergency flashers, and flashing amber light. (Visible from all directions)
- 18x18 (450x450) min. orange flag (use when guide wheel is used)
- Truck mounted attenuator

**GENERAL NOTES**

This Standard is used where any vehicle, equipment, workers or their activities will require a continuous moving operation where the average speed is greater than 3 mph (5 km/h).

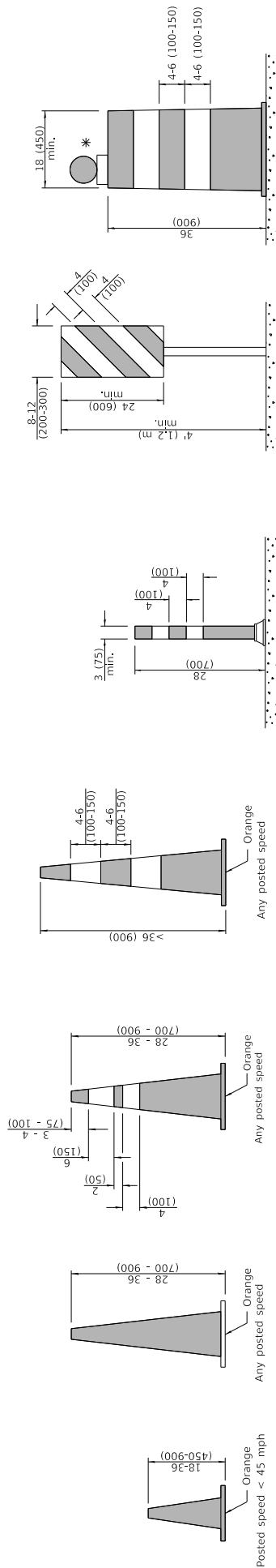
For shoulder operations not encroaching on the pavement, use DETAIL A, Standard 701426, unless otherwise shown.

|   |                                       |
|---|---------------------------------------|
| Illinois Department of Transportation<br>APPROVED<br>ENGINEER OF OPERATIONS<br>APPROVED<br>ENGINEER OF DESIGN AND ENVIRONMENT | JANUARY 1, 2009<br><i>[Signature]</i> |
|   | JANUARY 1, 2009<br><i>[Signature]</i> |

|        |  |
|--------|--|
| DATE   | REVISIONS  |
| 1-1-09 | Switched units to English (metric). Omitted Pass With Care sign. |
| 1-1-00 | Elim. speed restrictions in Standard title.                      |

**LANE CLOSURE 2L, 2W MOVING OPERATIONS— DAY ONLY**

STANDARD 701311-03



**CONES**

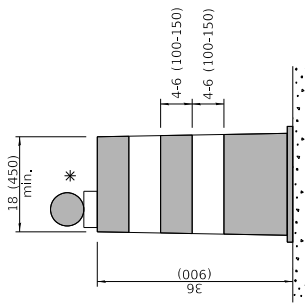
DAYTIME USE

Posted speed < 45 mph

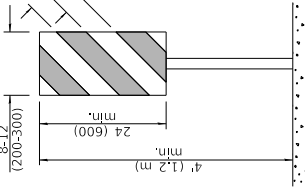
Orange Any posted speed

Orange Any posted speed

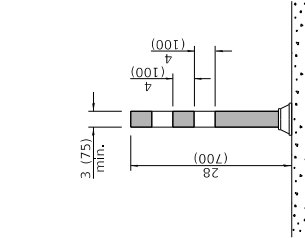
DAY OR NIGHTTIME USE



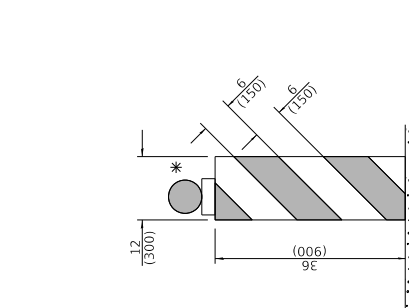
**DRUM**



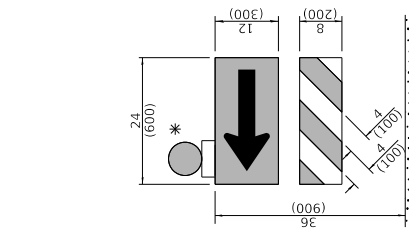
**VERTICAL PANEL  
POST MOUNTED**



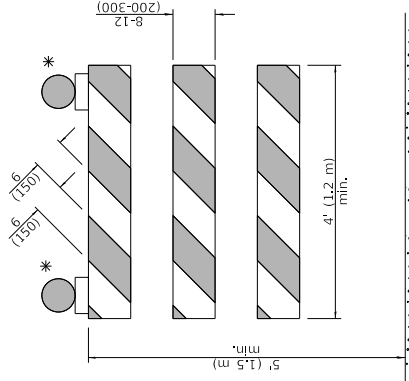
**TUBULAR MARKER**



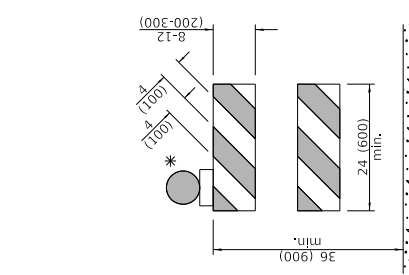
**VERTICAL BARRICADE**



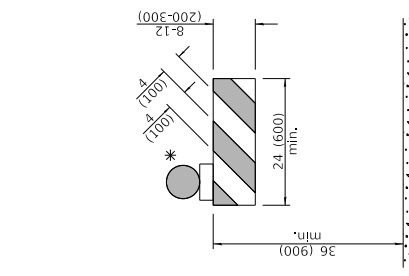
**DIRECTION INDICATOR  
BARRICADE**



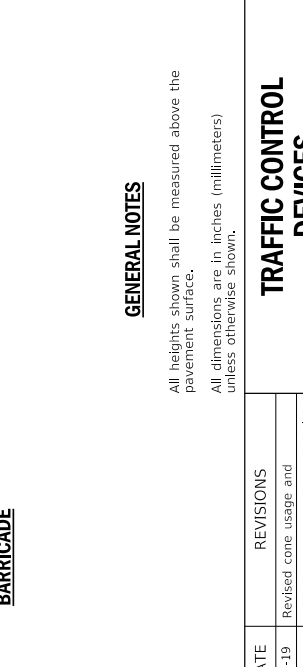
**TYPE III BARRICADE**



**TYPE II BARRICADE**



**TYPE I BARRICADE**



**DETECTABLE PEDESTRIAN  
CHANNELIZING BARRICADE**

\* Warning lights (if required)

**GENERAL NOTES**

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

| DATE   | REVISIONS   |
|--------|---|
| 1-1-19 | Revised cone usage and added cones >36" (900 m) height.                 |
| 1-1-18 | Revised END WORK ZONE SPEED LIMIT sign from orange to white background. |

**TRAFFIC CONTROL  
DEVICES**

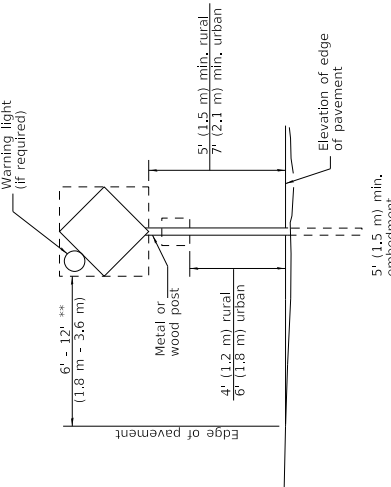
(Sheet 1 of 3)

**STANDARD 701901-08**

Illinois Department of Transportation  
 APPROVED January 1, 2019  
 [Signature] ENGINEER OF SAFETY PROC. AND ENGINEERING  
 APPROVED January 1, 2019  
 [Signature] ENGINEER OF DESIGN AND ENVIRONMENT

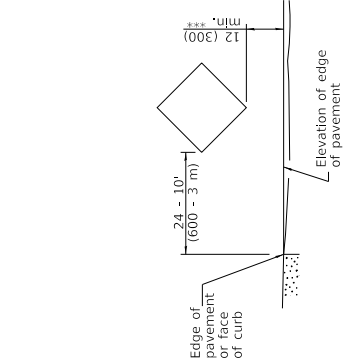
ISSUED 1-1-13





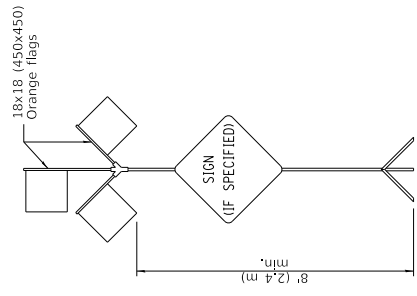
**POST MOUNTED SIGNS**

\*\* When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



**SIGNS ON TEMPORARY SUPPORTS**

\*\*\* When work operations exceed four days, this dimension shall be 5' (1.5 m) to the top of the sign behind other devices; the height shall be sufficient to be seen completely above the devices.



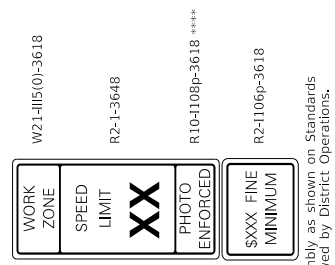
**HIGH LEVEL WARNING DEVICE**

ROAD CONSTRUCTION NEXT X MILES  
G20-1104(0)-6036

END CONSTRUCTION  
G20-1105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.  
ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.  
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).  
Dual sign displays shall be utilized on multi-lane highways.

**WORK LIMIT SIGNING**



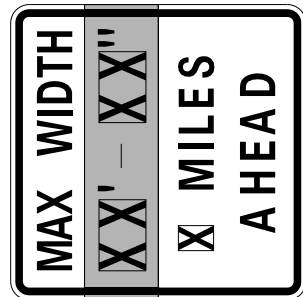
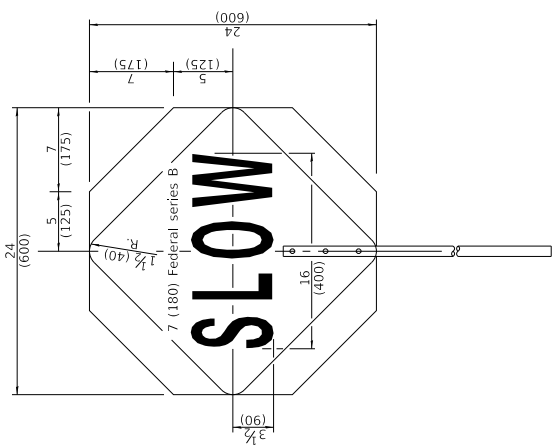
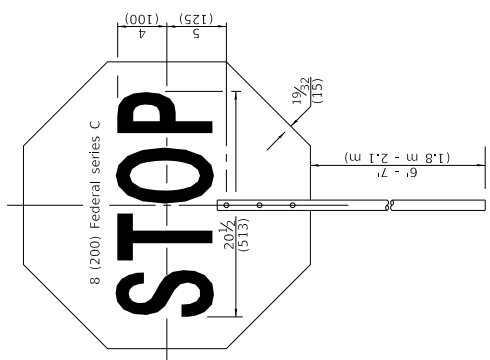
Sign assembly as shown on Standards or as allowed by District Operations.



This sign shall be used when the above sign assembly is used.

**HIGHWAY CONSTRUCTION SPEED ZONE SIGNS**

\*\*\*\* R10-1108p shall only be used along roadways under the jurisdiction of the State.



W12-1103-4848

**WIDTH RESTRICTION SIGN**

XX-XX" width and X miles are variable.

Illinois Department of Transportation

APPROVED January 1, 2019  
Cynthia C. [Signature]  
ENGINEER OF SAFETY PROC. AND ENGINEERING

ISSUED 1-1-13

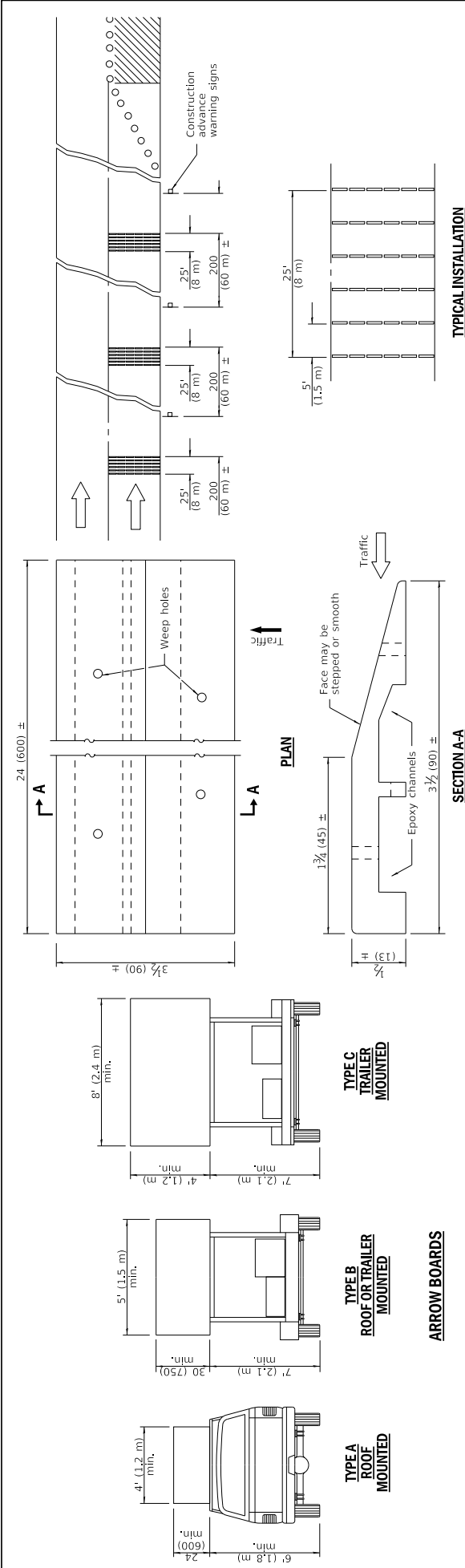
APPROVED January 1, 2019  
S. [Signature]  
ENGINEER OF DESIGN AND ENVIRONMENT

**FLAGGER TRAFFIC CONTROL SIGN**

**TRAFFIC CONTROL DEVICES**

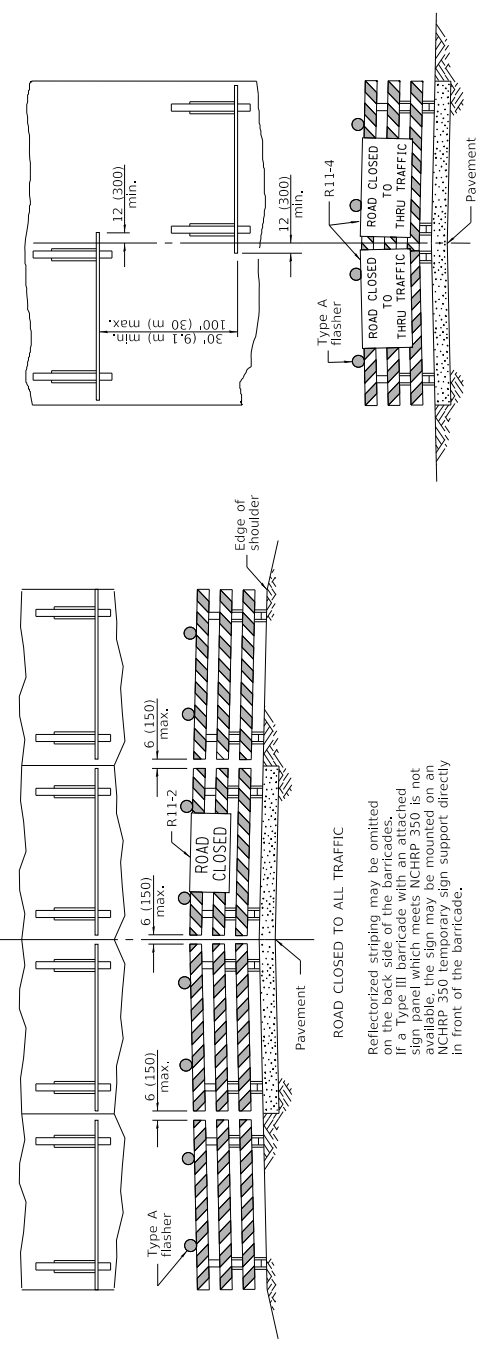
(Sheet 2 of 3)

**STANDARD 701901-08**



TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

ROAD CLOSED TO THRU TRAFFIC

ReflectORIZED striping shall appear on both sides of the barricades. If a Type III barricade with a reflectORIZED striping pattern is used, MCHR 350 is not available, the signs may be mounted directly in front of the barricade.

**TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD**

ReflectORIZED striping may be omitted on the back side of the barricades. If a Type III barricade with a reflectORIZED striping pattern is used, MCHR 350 is not available, the sign may be mounted on an MCHR 350 temporary sign support directly in front of the barricade.

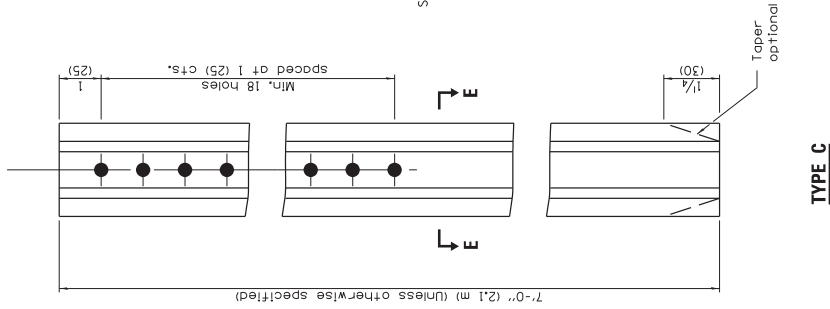
|  |                 |
|--|-----------------|
| Illinois Department of Transportation<br>APPROVED<br>[Signature]<br>ENGINEER OF SAFETY PROC. AND ENGINEERING | January 1, 2019 |
|  | 2019            |
| APPROVED<br>[Signature]<br>ENGINEER OF DESIGN AND ENVIRONMENT  | January 1, 2019 |
|  | 2019            |

ISSUED 1-1-13

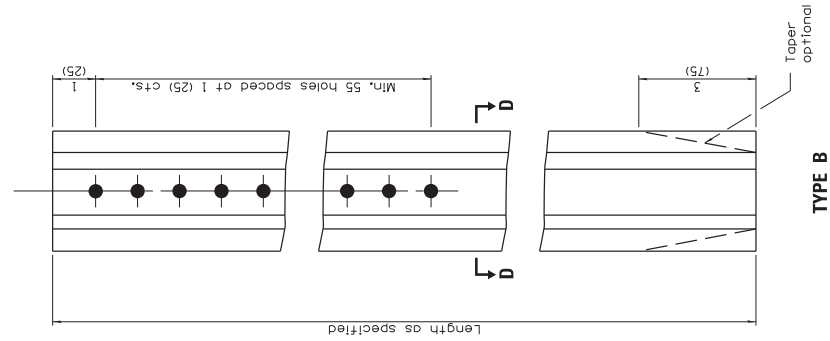
**TRAFFIC CONTROL DEVICES**

(Sheet 3 of 3)

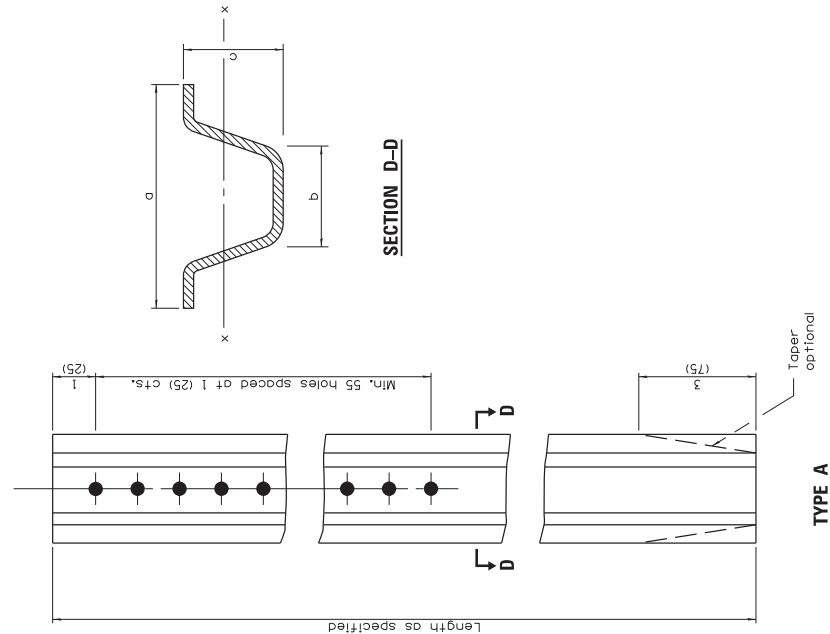
**STANDARD 701901-08**



**TYPE C**

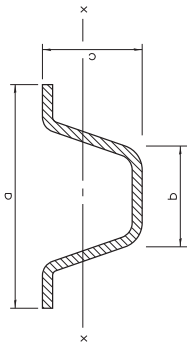


**TYPE B**

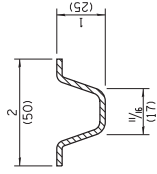


**TYPE A**

**SECTION D-D**



**SECTION E-E**



Steel - 1.12 lbs./ft. (0.67 kg/m)

**GENERAL NOTES**

Dimensions shown for cross sections are minimum.  
All holes are  $\frac{3}{8}$  (10).

Sx-x is the minimum section modulus about the x-x axis of the post as shown. For posts in which holes are punched or drilled for more than half their length, Sx-x shall be computed for the net section.

All dimensions are in inches (millimeters) unless otherwise shown.

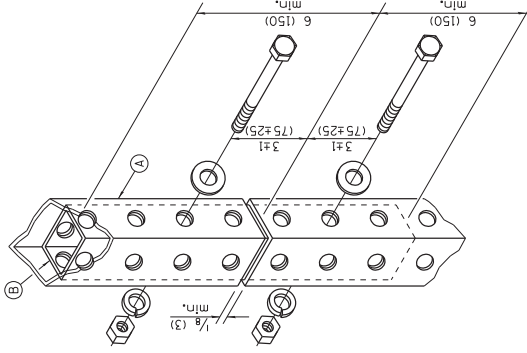
| TYPE   | Material | a         | b        | c        | S <sub>x-x</sub><br>I <sub>x-x</sub><br>P <sub>x-x</sub><br>(mm <sup>3</sup> ) | lbs./ft.<br>(kg/m) |
|--------|----------|-----------|----------|----------|--|--------------------|
|        |          |           |          |          |  |                    |
|        | Aluminum | 3/2 (89)  | 1/4 (41) | 1/4 (48) | 0.435 (7128)   | 0.90 (134)         |
| TYPE B | Steel    | 3/4 (81)  | 1/2 (32) | 1/2 (38) | 0.341 (5588)   | 3.00 (446)         |
|        | Aluminum | 4/4 (118) | 3/4 (57) | 3/4 (60) | 0.888 (14552)  | 1.30 (193)         |

| DATE   | REVISIONS                           |
|--------|-------------------------------------|
| 1-1-09 | Switched units to English (metric). |
| 1-1-97 | Renum. Standard 2350-4.             |

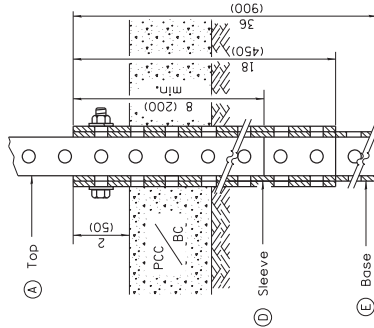
**METAL POSTS FOR SIGNS, MARKERS & DELINEATORS**

STANDARD 720011-01

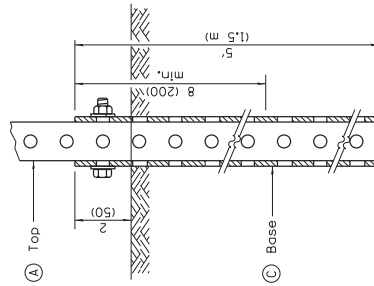
Illinois Department of Transportation  
 PASSED JANUARY 1, 2009  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED *Lee C. Ho* JANUARY 1, 2009  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97



**SPLICE DETAIL**



**PAVEMENT MOUNT DETAIL**



**GROUND MOUNT DETAIL**

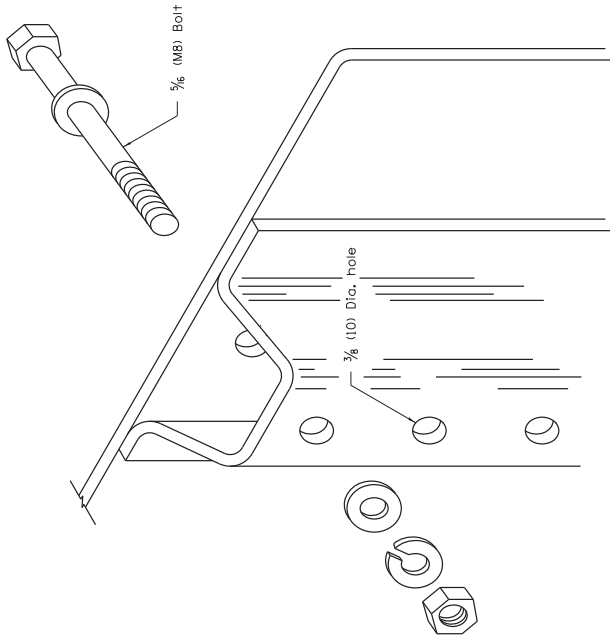
|     |                                     |
|-----|-------------------------------------|
| (A) | 2 x 2 x var. (51 x 51 var.)         |
| (B) | 1 3/4 x 1 3/4 x 12 (44 x 44 x 300)  |
| (C) | 2 1/4 x 2 1/4 x 60 (57 x 57 x 1500) |
| (D) | 2 1/2 x 2 1/2 x 18 (64 x 64 x 450)  |
| (E) | 2 1/4 x 2 1/4 x 36 (57 x 57 x 900)  |

**GENERAL NOTES**

All bolts 3/8 (M10) hex head zinc or cadmium plated.  
All dimensions are in inches (millimeters) unless otherwise shown.

|                                       |   |
|---------------------------------------|---|
| <b>TELESCOPING STEEL SIGN SUPPORT</b> |   |
| DATE                                  | REVISIONS   |
| 1-1-09                                | Switched units to English (metric).               |
| 1-1-07                                | New Standard. Used to be part of Standard 720006. |
| <b>STANDARD 728001-01</b>             |   |

|                                       |                    |
|---------------------------------------|--------------------|
| Illinois Department of Transportation |                    |
| APPROVED                              | JANUARY 1, 2009    |
| ENGINEER OF OPERATIONS                | <i>[Signature]</i> |
| APPROVED                              | JANUARY 1, 2009    |
| ENGINEER OF DESIGN AND ENVIRONMENT    | <i>[Signature]</i> |
| ISSUED 1-1-07                         |                    |



**DETAIL OF MOUNTING SIGN TO POST**

NOTE: Minimum of 2 bolts per post required.

**GENERAL NOTES**

DESIGN: Current AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

LOADING: for 60 mph (95 km/h) wind velocity with 30% gust factor, normal to sign.

SOIL PRESSURE: Minimum allowable soil pressure 1.25 tsf (120 kPa).

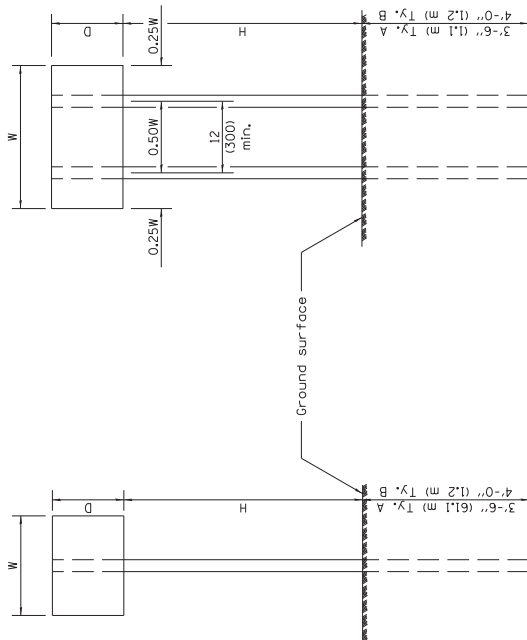
See Standard 720011 for details of Types A and B posts.

All dimensions are in inches (millimeters) unless otherwise shown.

**APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)**

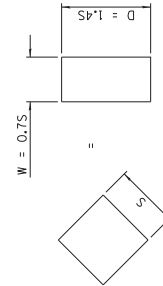
STANDARD 72001-01

| SIGN DEPTH (D) | H             | NO. AND TYPE OF POST FOR SIGN WIDTH (W) |          |          |          |          |  |
|----------------|---------------|---|----------|----------|----------|----------|--|
|                |               | 12 (300)                                | 24 (450) | 30 (600) | 36 (750) | 36 (900) |  |
| 18 (450)       | 5'-0" (1.5 m) | A                                       | A        | A        | A        | A        |  |
|                | 5'-6" (1.7 m) | A                                       | A        | A        | A        | A        |  |
|                | 6'-0" (1.8 m) | A                                       | A        | A        | A        | A        |  |
|                | 6'-6" (2.0 m) | A                                       | A        | A        | A        | B        |  |
|                | 7'-0" (2.1 m) | A                                       | A        | A        | A        | B        |  |
|                | 7'-6" (2.3 m) | A                                       | A        | A        | A        | B        |  |
| 24 (600)       | 8'-0" (2.4 m) | A                                       | A        | A        | A        | B        |  |
|                | 8'-6" (2.6 m) | A                                       | A        | A        | A        | B        |  |
|                | 9'-0" (2.7 m) | A                                       | A        | A        | A        | B        |  |
|                | 5'-0" (1.5 m) | A                                       | A        | A        | A        | B        |  |
|                | 5'-6" (1.7 m) | A                                       | A        | A        | A        | B        |  |
|                | 6'-0" (1.8 m) | A                                       | A        | A        | A        | B        |  |
| 30 (750)       | 6'-6" (2.0 m) | A                                       | A        | A        | A        | B        |  |
|                | 7'-0" (2.1 m) | A                                       | A        | A        | A        | B        |  |
|                | 7'-6" (2.3 m) | A                                       | A        | A        | A        | B        |  |
|                | 8'-0" (2.4 m) | A                                       | A        | A        | A        | B        |  |
|                | 8'-6" (2.6 m) | A                                       | A        | A        | A        | B        |  |
|                | 9'-0" (2.7 m) | A                                       | A        | A        | A        | B        |  |
| 36 (900)       | 5'-0" (1.5 m) | A                                       | A        | A        | A        | B        |  |
|                | 5'-6" (1.7 m) | A                                       | A        | A        | A        | B        |  |
|                | 6'-0" (1.8 m) | A                                       | A        | A        | A        | B        |  |
|                | 6'-6" (2.0 m) | A                                       | A        | A        | A        | B        |  |
|                | 7'-0" (2.1 m) | A                                       | A        | A        | A        | B        |  |
|                | 7'-6" (2.3 m) | A                                       | A        | A        | A        | B        |  |
| 4'-0" (1.2 m)  | 8'-0" (2.4 m) | A                                       | A        | A        | A        | B        |  |
|                | 8'-6" (2.6 m) | A                                       | A        | A        | A        | B        |  |
|                | 9'-0" (2.7 m) | A                                       | A        | A        | A        | B        |  |
|                | 5'-0" (1.5 m) | A                                       | A        | A        | A        | B        |  |
|                | 5'-6" (1.7 m) | A                                       | A        | A        | A        | B        |  |
|                | 6'-0" (1.8 m) | A                                       | A        | A        | A        | B        |  |



**ONE POST INSTALLATION**

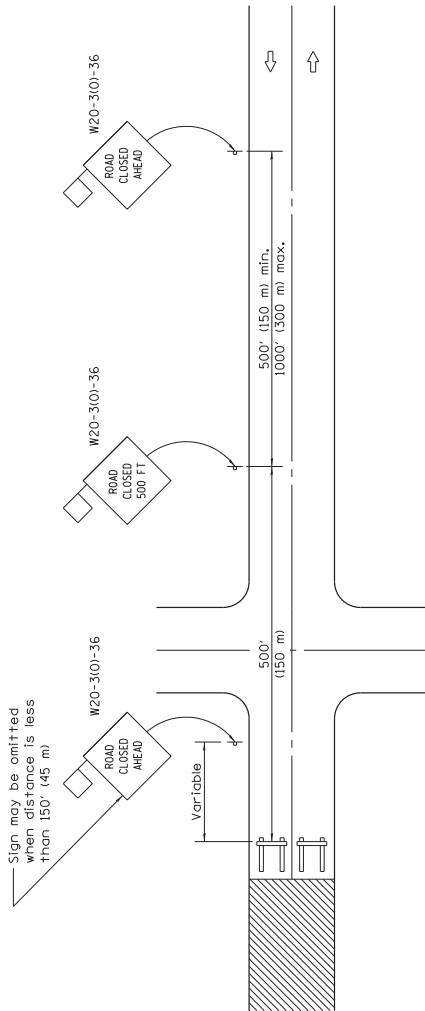
**TWO POST INSTALLATION**



For diamond shaped sign with side S as shown, use required post size for a sign with  $W = 0.7S$  and  $D = 1.4S$ .

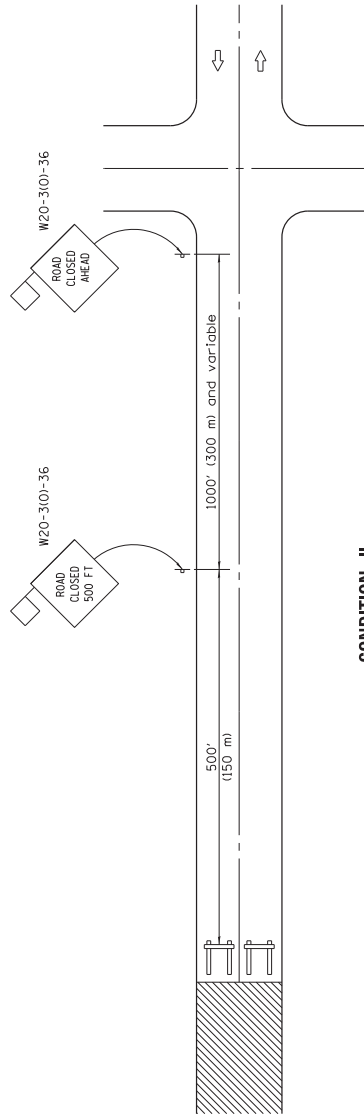
| DATE   | REVISIONS                           |
|--------|-------------------------------------|
| 1-1-09 | Switched units to English (metric). |
| 1-1-97 | Renum. Standard 2363-2.             |

Illinois Department of Transportation  
 PASSED JANUARY 1, 2009  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED *Scott B. ...* JANUARY 1, 2009  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97



**CONDITION I**

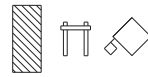
When distance from closure to crossroad is less than 1500' (450 m)



**CONDITION II**

When distance from closure to crossroad is greater than 1500' (450 m)

**SYMBOLS**



**GENERAL NOTES**

Type III Barricades and R11-2-4830 signs shall be positioned as shown in "Road Closed to All Traffic" detail on highway Standard 701301.

Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area during hours of darkness. One light shall be installed above the barricades and the other above the first advance warning sign.

All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.

When fluorescent signs are used, orange flags are not required.

Longitudinal dimensions may be adjusted to fit field conditions.

When the distance between the barricade and the intersection is between 1500' (450 m) and 2000' (600 m), the advance sign shall be placed at the intersection. When the distance between the barricade and the intersection is over 2000' (600 m), an additional sign shall be placed at the intersection. The additional sign shall give the distance to the barricade in miles or fractions of a mile.

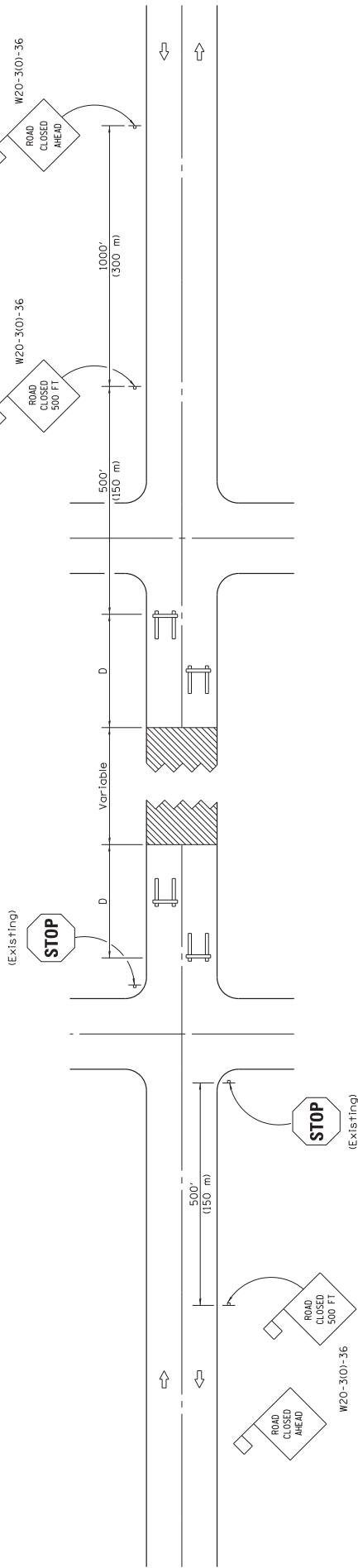
All dimensions are in inches (millimeters) unless otherwise shown.

| TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |                                       |
|---|---------------------------------------|
| DATE  | REVISIONS                             |
| 1-1-12  | Omitted two notes from GENERAL NOTES. |
| 1-1-09  | Switched units to English (metric).   |
| <b>STANDARD B.L.R. 21-9</b>   |                                       |

|  |               |
|--|---------------|
| APPROVED<br>JANECEY, J.<br>2012<br>ENGINEER OF LOCAL ROADS AND STREETS | ISSUED 1-1-97 |
| APPROVED<br>JANECEY, J.<br>2012<br>ENGINEER OF DESIGN AND ENVIRONMENT  |               |

**CONDITION I**  
**APPROACH TRAFFIC STOPPED**

**CONDITION II**  
**APPROACH TRAFFIC DOES NOT STOP**



**GENERAL NOTES**  
 Type III Barricades and R11-4-6030 signs shall be positioned as shown in the "Road Closed To All Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 2000' (600 m), an additional set of barricades and R11-4-6030 shall be placed at each end of the work area.  
 Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area. One light shall be installed above each barricade. If only one barricade is required, the other light shall be installed above the first advance warning sign.  
 All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.  
 When fluorescent signs are used, orange flags are not required.  
 Longitudinal dimensions may be adjusted to fit field conditions.  
 All dimensions are in inches (millimeters) unless otherwise shown.

**GENERAL NOTES**  
 Type III Barricades and R11-4-6030 signs shall be positioned as shown in the "Road Closed To All Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 2000' (600 m), an additional set of barricades and R11-4-6030 shall be placed at each end of the work area.  
 Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area. One light shall be installed above each barricade. If only one barricade is required, the other light shall be installed above the first advance warning sign.  
 All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.  
 When fluorescent signs are used, orange flags are not required.  
 Longitudinal dimensions may be adjusted to fit field conditions.  
 All dimensions are in inches (millimeters) unless otherwise shown.

|                                     |                    |
|-------------------------------------|--------------------|
| APPROVED                            | JANUARY 1, 2012    |
| ENGINEER OF LOCAL ROADS AND STREETS | <i>David Jones</i> |
| APPROVED                            | JANUARY 1, 2012    |
| ENGINEER OF DESIGN AND ENVIRONMENT  | <i>Scott Eddy</i>  |

|        |   |   |
|--------|---|---|
| DATE   | REVISIONS   | <b>TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS</b><br>(TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)<br><br><b>STANDARD B.L.R. 22-7</b> |
| 1-1-12 | Omitted two notes from GENERAL NOTES.                         |   |
| 1-1-09 | Revised General Notes and switched units to English (metric). |   |
|        |   |   |

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

#### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor

performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

#### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection



for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

## **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#).

The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### **III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### **IV. DAVIS-BACON AND RELATED ACT PROVISIONS**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### **1. Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each

classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a

separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

##### d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### **10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one

and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

#### **VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### 1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of



Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

#### **XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of

Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.



**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

## Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY  
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.