

**If you plan to submit a bid directly to the Department of Transportation**

**PREQUALIFICATION**

Any contractor who desires to become pre-qualified to bid on work advertised by IDOT must submit the properly completed pre-qualification forms to the Bureau of Construction no later than 4:30 p.m. prevailing time twenty-one days prior to the letting of interest. This pre-qualification requirement applies to first time contractors, contractors renewing expired ratings, contractors maintaining continuous pre-qualification or contractors requesting revised ratings. To be eligible to bid, existing pre-qualification ratings must be effective through the date of letting.

**REQUESTS FOR AUTHORIZATION TO BID**

Contractors wanting to bid on items included in a particular letting must submit the properly completed "Request for Authorization to Bid/or Not For Bid Status" (BDE 124) and the ORIGINAL "Affidavit of Availability" (BC 57) to the proper office no later than 4:30 p.m. prevailing time, three (3) days prior to the letting date. This does not apply to Small Business Set-Asides.

**WHO CAN BID ?**

Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction. This does not apply to Small Business Set-Asides.

**WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?:** When a prospective prime bidder submits a "Request for Authorization to Bid/or Not For Bid Status" (BDE 124) he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued an **Authorization to Bid or Not for Bid Report**, approved by the Central Bureau of Construction that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Authorization to Bid or Not for Bid Report** will indicate the reason for denial.

**ABOUT AUTHORIZATION TO BID:** Firms that have not received an authorization form within a reasonable time of complete and correct original document submittal should contact the department as to status. This is critical in the week before the letting. These documents must be received three days before the letting date. Firms unsure as to authorization status should call the Prequalification Section of the Bureau of Construction at the number listed at the end of these instructions.

**ADDENDA AND REVISIONS:** It is the contractor's responsibility to determine which, if any, addenda or revisions pertain to any project they may be bidding. Failure to incorporate all relevant addenda or revisions may cause the bid to be declared unacceptable.

Each addendum will be placed with the contract number. Addenda and revisions will also be placed on the Addendum/Revision Checklist and each subscription service subscriber will be notified by e-mail of each addendum and revision issued.

The Internet is the Department's primary way of doing business. The subscription server e-mails are an added courtesy the Department provides. It is suggested that bidders check IDOT's website at <http://www.dot.il.gov/desenv/delett.html> before submitting final bid information.

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***IDOT IS NOT RESPONSIBLE FOR ANY E-MAIL FAILURES.***

Addenda Questions may be directed to the Plans and Contracts Office at (217)782-7806 or [D&Econtracts@dot.il.gov](mailto:D&Econtracts@dot.il.gov)

Technical Questions about downloading these files may be directed to Tim Garman (217)524-1642 or [Timothy.Garman@illinois.gov](mailto:Timothy.Garman@illinois.gov).

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**WHAT MUST BE INCLUDED WHEN BIDS ARE SUBMITTED?:** Bidders need not return the entire proposal when bids are submitted. That portion of the proposal that must be returned includes the following:

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond
2. Other special documentation and/or information that may be required by the contract special provisions

All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed by IDOT personnel.

**ABOUT SUBMITTING BIDS:** It is recommended that bidders deliver bids in person to insure they arrive at the proper location prior to the time specified for the receipt of bids. Any bid received at the place of letting after the time specified will not be accepted.

**WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?**

| <b>Questions Regarding</b>                   | <b>Call</b>  |
|--|--------------|
| Prequalification and/or Authorization to Bid | 217/782-3413 |
| Preparation and submittal of bids            | 217/782-7806 |
| Mailing of plans and proposals               | 217/782-7806 |

**ADDENDUMS AND REVISIONS TO THE PROPOSAL FORMS**

Bidders should verify that they have received and incorporated any addendum and/or revision prior to submitting their bid. Failure by the bidder to include an addendum or revision could result in a bid being rejected as irregular.

RETURN WITH BID

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|                       |
|-----------------------|
| Proposal Submitted By |
| Name                  |
| Address               |
| City                  |

Letting April 29, 2011

BIDDERS NEED NOT RETURN THE ENTIRE PROPOSAL  
(See instructions inside front cover)

**NOTICE TO PROSPECTIVE BIDDERS**

This proposal can be used for bidding purposes by only those companies that request and receive written AUTHORIZATION TO BID from IDOT's Central Bureau of Construction. This does not apply to Small Business Set-Asides.

(SEE INSTRUCTIONS ON THE INSIDE OF COVER)

**Notice to Bidders,  
Specifications,  
Proposal, Contract  
and Contract Bond**



**Illinois Department  
of Transportation**

Springfield, Illinois 62764

**Contract No. 60I29  
MCHENRY County  
Section 132B-2  
Route FAP 303  
Project NHF-0303(052)  
District 1 Construction Funds**

PLEASE MARK THE APPROPRIATE BOX BELOW:

- A Bid Bond is included.
- A Cashier's Check or a Certified Check is included

|             |   |
|-------------|---|
| Prepared by |   |
| Checked by  | F |

(Printed by authority of the State of Illinois)

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## INSTRUCTIONS

**ABOUT IDOT PROPOSALS:** All proposals issued by IDOT are potential bidding proposals. Each proposal contains all Certifications and Affidavits, a Proposal Signature Sheet and a Proposal Bid Bond. In addition, this proposal contains new statutory requirements applicable to the use of subcontractors and, in particular, includes the State Required Ethical Standards Governing Subcontractors to be signed and incorporated into all subcontracts.

**WHO CAN BID?:** Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction. To request authorization, a potential bidder must complete and submit Part B of the Request for Authorization to Bid/or Not For Bid Status form (BDE 124) and submit an original Affidavit of Availability (BC 57). This does not apply to Small Business Set-Asides.

**WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?:** When a prospective prime bidder submits a "**Authorization to Bid or Not for Bid**" form, he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued a **Authorization to Bid or Not for Bid Report**, approved by the Central Bureau of Construction, that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Authorization to Bid or Not for Bid Report** will indicate the reason for denial. If a contractor has requested to bid but has not received a **Authorization to Bid or Not for Bid Report**, they should contact the Central Bureau of Construction in advance of the letting date.

**WHAT MUST BE INCLUDED WHEN BIDS ARE SUBMITTED?:** Bidders need not return the entire proposal when bids are submitted. That portion of the proposal that must be returned includes the following:

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond
2. Other special documentation and/or information that may be required by the contract special provisions

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### WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

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| Prequalification and/or Authorization to Bid | 217/782-3413 |
| Preparation and submittal of bids            | 217/782-7806 |

RETURN WITH BID



PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of \_\_\_\_\_  
\_\_\_\_\_

Taxpayer Identification Number (Mandatory) \_\_\_\_\_

for the improvement identified and advertised for bids in the Invitation for Bids as:

**Contract No. 60I29  
MCHENRY County  
Section 132B-2  
Project NHF-0303(052)  
Route FAP 303  
District 1 Construction Funds**

**Bridge replacement of the structure carrying IL 173 over Nippersink Creek (SN 056-0091) with a 87'-7" back to back abutment, precast, prestressed concrete I-Beam bridge located in Hebron Township.**

2. The undersigned bidder will furnish all labor, material and equipment to complete the above described project in a good and workmanlike manner as provided in the contract documents provided by the Department of Transportation. This proposal will become part of the contract and the terms and conditions contained in the contract documents shall govern performance and payments.



**RETURN WITH BID**

6. **COMBINATION BIDS.** The undersigned further agrees that if awarded the contract for the sections contained in the following combination, he/she will perform the work in accordance with the requirements of each individual proposal comprising the combination bid specified in the schedule below, and that the combination bid shall be prorated against each section in proportion to the bid submitted for the same. If an error is found to exist in the gross sum bid for one or more of the individual sections included in a combination, the combination bid shall be corrected as provided in the specifications.

**When a combination bid is submitted, the schedule below must be completed in each proposal comprising the combination.**

**If alternate bids are submitted for one or more of the sections comprising the combination, a combination bid must be submitted for each alternate.**

**Schedule of Combination Bids**

| Combination No. | Sections Included in Combination | Combination Bid |       |
|-----------------|----------------------------------|-----------------|-------|
|                 |                                  | Dollars         | Cents |
|                 |                                  |                 |       |
|                 |                                  |                 |       |
|                 |                                  |                 |       |
|                 |                                  |                 |       |

7. **SCHEDULE OF PRICES.** The undersigned bidder submits herewith, in accordance with the rules and instructions, a schedule of prices for the items of work for which bids are sought. The unit prices bid are in U.S. dollars and cents, and all extensions and summations have been made. The bidder understands that the quantities appearing in the bid schedule are approximate and are provided for the purpose of obtaining a gross sum for the comparison of bids. If there is an error in the extension of the unit prices, the unit prices shall govern. Payment to the contractor awarded the contract will be made only for actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as provided elsewhere in the contract.

8. **AUTHORITY TO DO BUSINESS IN ILLINOIS.** Section 20-43 of the Illinois Procurement Code (30 ILCS 500/20-43) provides that a person (other than an individual acting as a sole proprietor) must be a legal entity authorized to do business in the State of Illinois prior to submitting the bid.

9. **The services of a subcontractor will or may be used.**

Check box Yes   
 Check box No

For known subcontractors with subcontracts with an annual value of more than \$25,000, the contract shall include their name, address, and the dollar allocation for each subcontractor.

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10. **EXECUTION OF CONTRACT:** The Department of Transportation will, in accordance with the rules governing Department procurements, execute the contract and shall be the sole entity having the authority to accept performance and make payments under the contract. Execution of the contract by the Chief Procurement Officer or the State Purchasing Officer is for approval of the procurement process and execution of the contract by the Department. Neither the Chief Procurement Officer nor the State Purchasing Officer shall be responsible for administration of the contract or determinations respecting performance or payment there under except as otherwise permitted in the Illinois Procurement Code.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 60129

State Job # - C-91-012-10  
 PPS NBR - 1-77441-0000  
 County Name - MCHENRY--  
 Code - 111 - -  
 District - 1 - -  
 Section Number - 132B-2

Project Number  
 NHF-0303/052/

Route  
 FAP 303

| Item Number | Pay Item Description  | Unit of Measure | Quantity  | x | Unit Price | = | Total Price |
|-------------|-----------------------|-----------------|-----------|---|------------|---|-------------|
| A2002920    | T-CELTIS OCCID 2-1/2  | EACH            | 5.000     |   |            |   |             |
| A2006520    | T-QUERCUS BICOL 2-1/2 | EACH            | 5.000     |   |            |   |             |
| C2C01524    | S-CORNUS RACEMOSA 2'C | EACH            | 120.000   |   |            |   |             |
| X0326276    | TEMP LGHT SNGL LN STG | L SUM           | 1.000     |   |            |   |             |
| X0326806    | WASHOUT BASIN         | L SUM           | 1.000     |   |            |   |             |
| X0549200    | CLEAN PAVED DITCH     | FOOT            | 340.000   |   |            |   |             |
| X2070304    | POROUS GRAN EMB SPEC  | CU YD           | 202.000   |   |            |   |             |
| X6063000    | CONC GUTTER TB SPL    | FOOT            | 418.000   |   |            |   |             |
| Z0001050    | AGG SUBGRADE 12       | SQ YD           | 7,738.000 |   |            |   |             |
| Z0001900    | ASB BEARING PAD REMOV | EACH            | 52.000    |   |            |   |             |
| Z0004552    | APPROACH SLAB REM     | SQ YD           | 118.000   |   |            |   |             |
| Z0004638    | PAVT BREAKING         | SQ YD           | 3,100.000 |   |            |   |             |
| Z0013798    | CONSTRUCTION LAYOUT   | L SUM           | 1.000     |   |            |   |             |
| Z0022800    | FENCE REMOVAL         | FOOT            | 464.000   |   |            |   |             |
| Z0026407    | TEMP SHT PILING       | SQ FT           | 5,783.000 |   |            |   |             |



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 Code - 111 - -  
 District - 1 - -  
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Project Number  
 NHF-0303/052/

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|-------------|-----------------------|-----------------|------------|---|------------|---|-------------|
| Z0030250    | IMP ATTN TEMP NRD TL3 | EACH            | 4.000      |   |            |   |             |
| Z0030350    | IMP ATTN REL NRD TL3  | EACH            | 2.000      |   |            |   |             |
| Z0030850    | TEMP INFO SIGNING     | SQ FT           | 52.000     |   |            |   |             |
| Z0042002    | POROUS GRAN EMB SUBGR | CU YD           | 1,910.000  |   |            |   |             |
| Z0046304    | P UNDR FOR STRUCT 4   | FOOT            | 130.000    |   |            |   |             |
| Z0062456    | TEMP PAVEMENT         | SQ YD           | 1,372.000  |   |            |   |             |
| 20100110    | TREE REMOV 6-15       | UNIT            | 513.000    |   |            |   |             |
| 20100210    | TREE REMOV OVER 15    | UNIT            | 54.000     |   |            |   |             |
| 20200100    | EARTH EXCAVATION      | CU YD           | 2,950.000  |   |            |   |             |
| 20201200    | REM & DISP UNS MATL   | CU YD           | 2,760.000  |   |            |   |             |
| 20400800    | FURNISHED EXCAVATION  | CU YD           | 5,140.000  |   |            |   |             |
| 20800150    | TRENCH BACKFILL       | CU YD           | 12.000     |   |            |   |             |
| 21001000    | GEOTECH FAB F/GR STAB | SQ YD           | 5,730.000  |   |            |   |             |
| 21101625    | TOPSOIL F & P 6       | SQ YD           | 12,296.000 |   |            |   |             |
| 21301052    | EXPLOR TRENCH 52      | FOOT            | 100.000    |   |            |   |             |

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|-------------|-----------------------|-----------------|-----------|---|------------|---|-------------|
| 25000210    | SEEDING CL 2A         | ACRE            | 1.250     |   |            |   |             |
| 25000312    | SEEDING CL 4A         | ACRE            | 1.000     |   |            |   |             |
| 25100630    | EROSION CONTR BLANKET | SQ YD           | 5,513.000 |   |            |   |             |
| 25100900    | TURF REINF MAT        | SQ YD           | 6,872.000 |   |            |   |             |
| 28000250    | TEMP EROS CONTR SEED  | POUND           | 1,877.000 |   |            |   |             |
| 28000305    | TEMP DITCH CHECKS     | FOOT            | 2,268.000 |   |            |   |             |
| 28000400    | PERIMETER EROS BAR    | FOOT            | 4,826.000 |   |            |   |             |
| 28100107    | STONE RIPRAP CL A4    | SQ YD           | 1,095.000 |   |            |   |             |
| 28200200    | FILTER FABRIC         | SQ YD           | 1,095.000 |   |            |   |             |
| 35101600    | AGG BASE CSE B 4      | SQ YD           | 2,045.000 |   |            |   |             |
| 35501308    | HMA BASE CSE 6        | SQ YD           | 285.000   |   |            |   |             |
| 40600982    | HMA SURF REM BUTT JT  | SQ YD           | 254.000   |   |            |   |             |
| 40600990    | TEMPORARY RAMP        | SQ YD           | 29.000    |   |            |   |             |
| 40603080    | HMA BC IL-19.0 N50    | TON             | 452.000   |   |            |   |             |
| 40603335    | HMA SC "D" N50        | TON             | 347.000   |   |            |   |             |

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Project Number  
 NHF-0303/052/

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 FAP 303

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|-------------|-----------------------|-----------------|-----------|---|------------|---|-------------|
| 42000411    | PCC PVT 9 1/2 JOINTD  | SQ YD           | 4,492.000 |   |            |   |             |
| 42001420    | BR APPR PVT CON (PCC) | SQ YD           | 58.000    |   |            |   |             |
| 42101300    | PROTECTIVE COAT       | SQ YD           | 7,580.000 |   |            |   |             |
| 44000100    | PAVEMENT REM          | SQ YD           | 3,294.000 |   |            |   |             |
| 44000157    | HMA SURF REM 2        | SQ YD           | 1,722.000 |   |            |   |             |
| 44000200    | DRIVE PAVEMENT REM    | SQ YD           | 181.000   |   |            |   |             |
| 44000500    | COMB CURB GUTTER REM  | FOOT            | 518.000   |   |            |   |             |
| 44004000    | PAVED DITCH REMOVAL   | FOOT            | 1,555.000 |   |            |   |             |
| 44004250    | PAVED SHLD REMOVAL    | SQ YD           | 387.000   |   |            |   |             |
| 44201696    | CL D PATCH T4 4       | SQ YD           | 127.000   |   |            |   |             |
| 44201803    | CL D PATCH T2 13      | SQ YD           | 24.000    |   |            |   |             |
| 48101500    | AGGREGATE SHLDS B 6   | SQ YD           | 648.000   |   |            |   |             |
| 48102100    | AGG WEDGE SHLD TYPE B | TON             | 90.000    |   |            |   |             |
| 48203031    | HMA SHOULDERS 8 1/2   | SQ YD           | 124.000   |   |            |   |             |
| 48300410    | PCC SHOULDERS 9 1/2   | SQ YD           | 2,928.000 |   |            |   |             |

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SCHEDULE OF PRICES  
CONTRACT  
NUMBER - 60129

State Job # - C-91-012-10  
PPS NBR - 1-77441-0000  
County Name - MCHENRY--  
Code - 111 - -  
District - 1 - -  
Section Number - 132B-2

Project Number  
NHF-0303/052/

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|-------------|-----------------------|-----------------|------------|---|------------|---|-------------|
| 50100100    | REM EXIST STRUCT      | EACH            | 1.000      |   |            |   |             |
| 50105220    | PIPE CULVERT REMOV    | FOOT            | 82.000     |   |            |   |             |
| 50200100    | STRUCTURE EXCAVATION  | CU YD           | 122.000    |   |            |   |             |
| 50300225    | CONC STRUCT           | CU YD           | 63.700     |   |            |   |             |
| 50300255    | CONC SUP-STR          | CU YD           | 268.400    |   |            |   |             |
| 50300260    | BR DECK GROOVING      | SQ YD           | 626.000    |   |            |   |             |
| 50300280    | CONCRETE ENCASEMENT   | CU YD           | 6.200      |   |            |   |             |
| 50300300    | PROTECTIVE COAT       | SQ YD           | 724.000    |   |            |   |             |
| 50401105    | F & E P P CON I-BM 54 | FOOT            | 516.500    |   |            |   |             |
| 50800205    | REINF BARS, EPOXY CTD | POUND           | 71,230.000 |   |            |   |             |
| 50800515    | BAR SPLICERS          | EACH            | 646.000    |   |            |   |             |
| 51201600    | FUR STL PILE HP12X53  | FOOT            | 888.000    |   |            |   |             |
| 51202305    | DRIVING PILES         | FOOT            | 888.000    |   |            |   |             |
| 51203600    | TEST PILE ST HP12X53  | EACH            | 2.000      |   |            |   |             |
| 51500100    | NAME PLATES           | EACH            | 1.000      |   |            |   |             |

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|-------------|-----------------------|-----------------|-----------|---|------------|---|-------------|
| 542D1063    | P CUL CL D 2 18       | FOOT            | 63.000    |   |            |   |             |
| 542D5485    | P CUL CL D 1 EQRS 30  | FOOT            | 46.000    |   |            |   |             |
| 54215553    | MET END SEC 18        | EACH            | 2.000     |   |            |   |             |
| 54215775    | MET END SEC EQV RS 30 | EACH            | 2.000     |   |            |   |             |
| 59100100    | GEOCOMPOSITE WALL DR  | SQ YD           | 104.000   |   |            |   |             |
| 60100060    | CONC HDWL FOR P DRAIN | EACH            | 5.000     |   |            |   |             |
| 60100915    | PIPE DRAINS 6         | FOOT            | 50.000    |   |            |   |             |
| 60100925    | PIPE DRAINS 8         | FOOT            | 50.000    |   |            |   |             |
| 60107600    | PIPE UNDERDRAINS 4    | FOOT            | 528.000   |   |            |   |             |
| 60600095    | CLASS SI CONC OUTLET  | CU YD           | 3.700     |   |            |   |             |
| 61133100    | FLD TILE JUN VAULT 2D | EACH            | 2.000     |   |            |   |             |
| 63000001    | SPBGR TY A 6FT POSTS  | FOOT            | 1,087.500 |   |            |   |             |
| 63100085    | TRAF BAR TERM T6      | EACH            | 4.000     |   |            |   |             |
| 63100167    | TR BAR TRM T1 SPL TAN | EACH            | 4.000     |   |            |   |             |
| 63200310    | GUARDRAIL REMOV       | FOOT            | 441.000   |   |            |   |             |

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State Job # - C-91-012-10  
 PPS NBR - 1-77441-0000  
 County Name - MCHENRY--  
 Code - 111 - -  
 District - 1 - -  
 Section Number - 132B-2

Project Number  
 NHF-0303/052/

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|-------------|-----------------------|-----------------|-----------|---|------------|---|-------------|
| 63500105    | DELINEATORS           | EACH            | 41.000    |   |            |   |             |
| 64200105    | SHOULDER RUMBLE STRIP | FOOT            | 3,429.000 |   |            |   |             |
| 66500105    | WOV W FENCE 4         | FOOT            | 454.000   |   |            |   |             |
| 66600105    | FUR ERECT ROW MARKERS | EACH            | 20.000    |   |            |   |             |
| 66700305    | PERM SURV MKRS T2     | EACH            | 2.000     |   |            |   |             |
| 67000400    | ENGR FIELD OFFICE A   | CAL MO          | 10.000    |   |            |   |             |
| 67100100    | MOBILIZATION          | L SUM           | 1.000     |   |            |   |             |
| 70100405    | TRAF CONT-PROT 701321 | EACH            | 1.000     |   |            |   |             |
| 70100450    | TRAF CONT-PROT 701201 | L SUM           | 1.000     |   |            |   |             |
| 70100460    | TRAF CONT-PROT 701306 | L SUM           | 1.000     |   |            |   |             |
| 70100500    | TRAF CONT-PROT 701326 | L SUM           | 1.000     |   |            |   |             |
| 70103815    | TR CONT SURVEILLANCE  | CAL DA          | 14.000    |   |            |   |             |
| 70106500    | TEMP BR TRAF SIGNALS  | EACH            | 1.000     |   |            |   |             |
| 70106700    | TEMP RUMBLE STRIPS    | EACH            | 6.000     |   |            |   |             |
| 70106800    | CHANGEABLE MESSAGE SN | CAL MO          | 4.000     |   |            |   |             |

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 County Name - MCHENRY--  
 Code - 111 - -  
 District - 1 - -  
 Section Number - 132B-2

Project Number  
 NHF-0303/052/

Route  
 FAP 303

| Item Number | Pay Item Description  | Unit of Measure | Quantity   | x | Unit Price | = | Total Price |
|-------------|-----------------------|-----------------|------------|---|------------|---|-------------|
| 70300100    | SHORT TERM PAVT MKING | FOOT            | 1,208.000  |   |            |   |             |
| 70300220    | TEMP PVT MK LINE 4    | FOOT            | 10,638.000 |   |            |   |             |
| 70300280    | TEMP PVT MK LINE 24   | FOOT            | 80.000     |   |            |   |             |
| 70301000    | WORK ZONE PAVT MK REM | SQ FT           | 1,740.000  |   |            |   |             |
| 70400100    | TEMP CONC BARRIER     | FOOT            | 1,925.000  |   |            |   |             |
| 70400200    | REL TEMP CONC BARRIER | FOOT            | 1,830.000  |   |            |   |             |
| 70500100    | TEMP SPBGR TY A       | FOOT            | 87.500     |   |            |   |             |
| 70500615    | TEMP TR BAR TERM T1   | EACH            | 2.000      |   |            |   |             |
| 72400100    | REMOV SIN PAN ASSY TA | EACH            | 2.000      |   |            |   |             |
| 78008210    | POLYUREA PM T1 LN 4   | FOOT            | 9,240.000  |   |            |   |             |
| 78100100    | RAISED REFL PAVT MKR  | EACH            | 82.000     |   |            |   |             |
| 78100105    | RAISED REF PVT MKR BR | EACH            | 6.000      |   |            |   |             |
| 78200410    | GUARDRAIL MKR TYPE A  | EACH            | 30.000     |   |            |   |             |
| 78200520    | BAR WALL MKR TYPE B   | EACH            | 6.000      |   |            |   |             |
| 78201000    | TERMINAL MARKER - DA  | EACH            | 4.000      |   |            |   |             |

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 60129

State Job # - C-91-012-10  
 PPS NBR - 1-77441-0000  
 County Name - MCHENRY--  
 Code - 111 - -  
 District - 1 - -  
 Section Number - 132B-2

Project Number  
 NHF-0303/052/

Route  
 FAP 303

| Item<br>Number | Pay Item Description  | Unit of<br>Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|----------|---|------------|---|-------------|
| 78300100       | PAVT MARKING REMOVAL  | SQ FT              | 351.000  |   |            |   |             |
| 78300200       | RAISED REF PVT MK REM | EACH               | 8.000    |   |            |   |             |



**CONTRACT NUMBER**

**60129**

**THIS IS THE TOTAL BID**

**\$ \_\_\_\_\_**

**NOTES:**

1. Each PAY ITEM should have a UNIT PRICE and a TOTAL PRICE.
2. The UNIT PRICE shall govern if no TOTAL PRICE is shown or if there is a discrepancy between the product of the UNIT PRICE multiplied by the QUANTITY.
3. If a UNIT PRICE is omitted, the TOTAL PRICE will be divided by the QUANTITY in order to establish a UNIT PRICE.
4. A bid may be declared UNACCEPTABLE if neither a unit price nor a total price is shown.

## RETURN WITH BID

### **STATE REQUIRED ETHICAL STANDARDS GOVERNING CONTRACT PROCUREMENT: ASSURANCES, CERTIFICATIONS AND DISCLOSURES**

#### **I. GENERAL**

**A.** Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

**B.** In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. Except as otherwise required in subsection III, paragraphs J-M, by execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances have been read and understood, that each certification is made and understood, and that each disclosure requirement has been understood and completed.

**C.** In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the chief procurement officer to void the contract, or subcontract, and may result in the suspension or debarment of the bidder or subcontractor.

#### **II. ASSURANCES**

The assurances hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder.

##### **A. Conflicts of Interest**

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

(a) Prohibition. It is unlawful for any person holding an elective office in this State, holding a seat in the General Assembly, or appointed to or employed in any of the offices or agencies of state government and who receives compensation for such employment in excess of 60% of the salary of the Governor of the State of Illinois, or who is an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority, or who is the spouse or minor child of any such person to have or acquire any contract, or any direct pecuniary interest in any contract therein, whether for stationery, printing, paper, or any services, materials, or supplies, that will be wholly or partially satisfied by the payment of funds appropriated by the General Assembly of the State of Illinois or in any contract of the Capital Development Board or the Illinois Toll Highway authority.

(b) Interests. It is unlawful for any firm, partnership, association or corporation, in which any person listed in subsection (a) is entitled to receive (i) more than 7 1/2% of the total distributable income or (ii) an amount in excess of the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(c) Combined interests. It is unlawful for any firm, partnership, association, or corporation, in which any person listed in subsection (a) together with his or her spouse or minor children is entitled to receive (i) more than 15%, in the aggregate, of the total distributable income or (ii) an amount in excess of 2 times the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(d) Securities. Nothing in this Section invalidates the provisions of any bond or other security previously offered or to be offered for sale or sold by or for the State of Illinois.

(e) Prior interests. This Section does not affect the validity of any contract made between the State and an officer or employee of the State or member of the General Assembly, his or her spouse, minor child or any combination of those persons if that contract was in existence before his or her election or employment as an officer, member, or employee. The contract is voidable, however, if it cannot be completed within 365 days after the officer, member, or employee takes office or is employed.

The current salary of the Governor is \$177,412.00. Sixty percent of the salary is \$106,447.20.

## RETURN WITH BID

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-13, or that an effective exemption has been issued by the Board of Ethics to any individual subject to the Section 50-13 prohibitions pursuant to the provisions of Section 50-20 of the Code and Executive Order Number 3 (1998). Information concerning the exemption process is available from the Department upon request.

### **B. Negotiations**

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

(a) It is unlawful for any person employed in or on a continual contractual relationship with any of the offices or agencies of State government to participate in contract negotiations on behalf of that office or agency with any firm, partnership, association, or corporation with whom that person has a contract for future employment or is negotiating concerning possible future employment.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-15, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

### **C. Inducements**

1. The Illinois Procurement Code provides:

Section 50-25. Inducement. Any person who offers or pays any money or other valuable thing to any person to induce him or her not to bid for a State contract or as recompense for not having bid on a State contract is guilty of a Class 4 felony. Any person who accepts any money or other valuable thing for not bidding for a State contract or who withholds a bid in consideration of the promise for the payment of money or other valuable thing is guilty of a Class 4 felony.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-25, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

### **D. Revolving Door Prohibition**

1. The Illinois Procurement Code provides:

Section 50-30. Revolving door prohibition. Chief procurement officers, State purchasing officers, procurement compliance monitors, their designees whose principal duties are directly related to State procurement, and executive officers confirmed by the Senate are expressly prohibited for a period of 2 years after terminating an affected position from engaging in any procurement activity relating to the State agency most recently employing them in an affected position for a period of at least 6 months. The prohibition includes, but is not limited to: lobbying the procurement process; specifying; bidding; proposing bid, proposal, or contract documents; on their own behalf or on behalf of any firm, partnership, association, or corporation. This Section applies only to persons who terminate an affected position on or after January 15, 1999.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-30, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

### **E. Reporting Anticompetitive Practices**

1. The Illinois Procurement Code provides:

Section 50-40. Reporting anticompetitive practices. When, for any reason, any vendor, bidder, contractor, chief procurement officer, State purchasing officer, designee, elected official, or State employee suspects collusion or other anticompetitive practice among any bidders, offerors, contractors, proposers, or employees of the State, a notice of the relevant facts shall be transmitted to the Attorney General and the chief procurement officer.

2. The bidder assures the Department that it has not failed to report any relevant facts concerning the practices addressed in Section 50-40 which may involve the contract for which the bid is submitted.

### **F. Confidentiality**

1. The Illinois Procurement Code provides:

Section 50-45. Confidentiality. Any chief procurement officer, State purchasing officer, designee, or executive officer who willfully uses or allows the use of specifications, competitive bid documents, proprietary competitive information, proposals, contracts, or selection information to compromise the fairness or integrity of the procurement, bidding, or contract process shall be subject to immediate dismissal, regardless of the Personnel code, any contract, or any collective bargaining agreement, and may in addition be subject to criminal prosecution.

2. The bidder assures the Department that it has no knowledge of any fact relevant to the practices addressed in Section 50-45 which may involve the contract for which the bid is submitted.

## RETURN WITH BID

### **G. Insider Information**

1. The Illinois Procurement Act provides:

Section 50-50. Insider information. It is unlawful for any current or former elected or appointed State official or State employee to knowingly use confidential information available only by virtue of that office or employment for actual or anticipated gain for themselves or another person.

2. The bidder assures the Department that it has no knowledge of any facts relevant to the practices addressed in Section 50-50 which may involve the contract for which the bid is submitted.

### **III. CERTIFICATIONS**

The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. Section 50-2 of the Illinois Procurement Code provides that every person that has entered into a multi-year contract and every subcontractor with a multi-year subcontract shall certify, by July 1 of each fiscal year covered by the contract after the initial fiscal year, to the responsible chief procurement officer whether it continues to satisfy the requirements of Article 50 pertaining to the eligibility for a contract award. If a contractor or subcontractor is not able to truthfully certify that it continues to meet all requirements, it shall provide with its certification a detailed explanation of the circumstances leading to the change in certification status. A contractor or subcontractor that makes a false statement material to any given certification required under Article 50 is, in addition to any other penalties or consequences prescribed by law, subject to liability under the Whistleblower Reward and Protection Act for submission of a false claim.

#### **A. Bribery**

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

(a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

(1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

(2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

(b) Businesses. No business shall be barred from contracting with any unit of State or local government, or subcontracting under such a contract, as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

(1) the business has been finally adjudicated not guilty; or

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

(c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

(d) Certification. Every bid submitted to and contract executed by the State, and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the contractor or the subcontractor, respectively, that the contractor or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any certifications required by this Section are false. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50.5.

#### **B. Felons**

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any State agency, or enter into a subcontract, from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

3. Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder or contractor or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any of the certifications required by this Section are false.

## RETURN WITH BID

### **C. Debt Delinquency**

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency.

The contractor or bidder or subcontractor, respectively, certifies that it, or any affiliate, is not barred from being awarded a contract or subcontract under the Procurement Code. Section 50-11 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The bidder or contractor or subcontractor, respectively, further acknowledges that the chief procurement officer may declare the related contract void if this certification is false or if the bidder, contractor, or subcontractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

### **D. Prohibited Bidders, Contractors and Subcontractors**

1. The Illinois Procurement Code provides:

Section 50-10.5 and 50-60(c). Prohibited bidders, contractors and subcontractors.

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 or if in violation of Subsection (c) for a period of five years from the date of conviction. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder, contractor, or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer shall declare the related contract void if any of the certifications completed pursuant to this Section are false.

### **E. Section 42 of the Environmental Protection Act**

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-12 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Procurement Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the chief procurement officer may declare the contract void if this certification is false.

### **F. Educational Loan**

1. Section 3 of the Educational Loan Default Act provides:

§ 3. No State agency shall contract with an individual for goods or services if that individual is in default, as defined in Section 2 of this Act, on an educational loan. Any contract used by any State agency shall include a statement certifying that the individual is not in default on an educational loan as provided in this Section.

2. The bidder, if an individual as opposed to a corporation, partnership or other form of business organization, certifies that the bidder is not in default on an educational loan as provided in Section 3 of the Act.

### **G. Bid-Rigging/Bid Rotating**

1. Section 33E-11 of the Criminal Code of 1961 provides:

§ 33E-11. (a) Every bid submitted to and public contract executed pursuant to such bid by the State or a unit of local government shall contain a certification by the prime contractor that the prime contractor is not barred from contracting with any unit of State or local government as a result of a violation of either Section 33E-3 or 33E-4 of this Article. The State and units of local government shall provide the appropriate forms for such certification.

- (b) A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

## RETURN WITH BID

A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

2. The bidder certifies that it is not barred from contracting with the Department by reason of a violation of either Section 33E-3 or Section 33E-4.

### **H. International Anti-Boycott**

1. Section 5 of the International Anti-Boycott Certification Act provides:

§ 5. State contracts. Every contract entered into by the State of Illinois for the manufacture, furnishing, or purchasing of supplies, material, or equipment or for the furnishing of work, labor, or services, in an amount exceeding the threshold for small purchases according to the purchasing laws of this State or \$10,000.00, whichever is less, shall contain certification, as a material condition of the contract, by which the contractor agrees that neither the contractor nor any substantially-owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the U.S. Export Administration Act of 1979 or the regulations of the U.S. Department of Commerce promulgated under that Act.

2. The bidder makes the certification set forth in Section 5 of the Act.

### **I. Drug Free Workplace**

1. The Illinois "Drug Free Workplace Act" applies to this contract and it is necessary to comply with the provisions of the "Act" if the contractor is a corporation, partnership, or other entity (including a sole proprietorship) which has 25 or more employees.

2. The bidder certifies that if awarded a contract in excess of \$5,000 it will provide a drug free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance, including cannabis, is prohibited in the contractor's workplace; specifying the actions that will be taken against employees for violations of such prohibition; and notifying the employee that, as a condition of employment on such contract, the employee shall abide by the terms of the statement, and notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

(b) Establishing a drug free awareness program to inform employees about the dangers of drug abuse in the workplace; the contractor's policy of maintaining a drug free workplace; any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug violations.

(c) Providing a copy of the statement required by subparagraph (1) to each employee engaged in the performance of the contract and to post the statement in a prominent place in the workplace.

(d) Notifying the Department within ten (10) days after receiving notice from an employee or otherwise receiving actual notice of the conviction of an employee for a violation of any criminal drug statute occurring in the workplace.

(e) Imposing or requiring, within 30 days after receiving notice from an employee of a conviction or actual notice of such a conviction, an appropriate personnel action, up to and including termination, or the satisfactory participation in a drug abuse assistance or rehabilitation program approved by a federal, state or local health, law enforcement or other appropriate agency.

(f) Assisting employees in selecting a course of action in the event drug counseling, treatment, and rehabilitation is required and indicating that a trained referral team is in place.

(g) Making a good faith effort to continue to maintain a drug free workplace through implementation of the actions and efforts stated in this certification.

## RETURN WITH BID

### J. Disclosure of Business Operations in Iran

Section 50-36 of the Illinois Procurement Code, 30ILCS 500/50-36 provides that each bid, offer, or proposal submitted for a State contract shall include a disclosure of whether or not the Company acting as the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran, or companies involved in consortiums or projects commissioned by the Government of Iran and either of the following conditions apply:

- (1) More than 10% of the Company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the Company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral-extraction products or services to the Government of Iran or a project or consortium created exclusively by that government; and the Company has failed to take substantial action.
- (2) The Company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12-month period, which directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.

The terms "Business operations", "Company", "Mineral-extraction activities", "Oil-related activities", "Petroleum resources", and "Substantial action" are all defined in the Code.

Failure to make the disclosure required by the Code shall cause the bid, offer or proposal to be considered not responsive. The disclosure will be considered when evaluating the bid, offer, or proposal or awarding the contract. The name of each Company disclosed as doing business or having done business in Iran will be provided to the State Comptroller.

Check the appropriate statement:

/ \_\_\_ / Company has no business operations in Iran to disclose.

/ \_\_\_ / Company has business operations in Iran as disclosed the attached document.

### K. Apprenticeship and Training Certification (Does not apply to federal aid projects)

In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors submitted for approval either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract. The Department, at any time before or after award, may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. Applicable apprenticeship and training programs are those that have been approved and registered with the United States Department of Labor. The bidder shall list in the space below, the official name of the program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's forces. Types of work or craft work that will be subcontracted shall be included and listed as subcontract work. The list shall also indicate any type of work or craft job category that does not have an applicable apprenticeship or training program. **The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project as reported on the Construction Employee Workforce Projection (Form BC-1256) and returned with the bid is accounted for and listed.**

NA-FEDERAL

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The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. In order to fulfill this requirement, it shall not be necessary that an applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract.

**RETURN WITH BID**

**L. Political Contributions and Registration with the State Board of Elections**

Sections 20-160 and 50-37 of the Illinois Procurement Code regulate political contributions from business entities and any affiliated entities or affiliated persons bidding on or contracting with the state. Generally under Section 50-37, any business entity, and any affiliated entity or affiliated person of the business entity, whose current year contracts with all state agencies exceed an awarded value of \$50,000, are prohibited from making any contributions to any political committees established to promote the candidacy of the officeholder responsible for the awarding of the contracts or any other declared candidate for that office for the duration of the term of office of the incumbent officeholder or a period 2 years after the termination of the contract, whichever is longer. Any business entity and affiliated entities or affiliated persons whose state contracts in the current year do not exceed an awarded value of \$50,000, but whose aggregate pending bids and proposals on state contracts exceed \$50,000, either alone or in combination with contracts not exceeding \$50,000, are prohibited from making any political contributions to any political committee established to promote the candidacy of the officeholder responsible for awarding the pending contract during the period beginning on the date the invitation for bids or request for proposals is issued and ending on the day after the date of award or selection if the entity was not awarded or selected. Section 20-160 requires certification of registration of affected business entities in accordance with procedures found in Section 9-35 of The Election Code.

By submission of a bid, the contractor business entity acknowledges and agrees that it has read and understands Sections 20-160 and 50-37 of the Illinois Procurement Code, and that it makes the following certification:

**The undersigned business entity certifies that it has registered as a business with the State Board of Elections and acknowledges a continuing duty to update the registration in accordance with the above referenced statutes. A copy of the certificate of registration shall be submitted with the bid. The bidder is cautioned that the Department will not award a contract without submission of the certificate of registration.**

These requirements and compliance with the above referenced statutory sections are a material part of the contract, and any breach thereof shall be cause to void the contract under Section 50-60 of the Illinois Procurement Code. This provision does not apply to Federal-aid contracts.

**M. Lobbyist Disclosure**

Section 50-38 of the Illinois Procurement Code requires that any bidder or offeror on a State contract that hires a person required to register under the Lobbyist Registration Act to assist in obtaining a contract shall:

- (i) Disclose all costs, fees, compensation, reimbursements, and other remunerations paid or to be paid to the lobbyist related to the contract,
- (ii) Not bill or otherwise cause the State of Illinois to pay for any of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration, and
- (iii) Sign a verification certifying that none of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration were billed to the State.

This information, along with all supporting documents, shall be filed with the agency awarding the contract and with the Secretary of State. The chief procurement officer shall post this information, together with the contract award notice, in the online Procurement Bulletin.

Pursuant to Subsection (c) of this Section, no person or entity shall retain a person or entity to attempt to influence the outcome of a procurement decision made under the Procurement Code for compensation contingent in whole or in part upon the decision or procurement. Any person who violates this subsection is guilty of a business offense and shall be fined not more than \$10,000.

Bidder acknowledges that it is required to disclose the hiring of any person required to register pursuant to the Illinois Lobbyist Registration Act (25 ILCS 170) in connection with this contract.

Bidder has not hired any person required to register pursuant to the Illinois Lobbyist Registration Act in connection with this contract.

Or

Bidder has hired the following persons required to register pursuant to the Illinois Lobbyist Registration Act in connection with the contract:

Name and address of person: \_\_\_\_\_  
All costs, fees, compensation, reimbursements and other remuneration paid to said person: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## RETURN WITH BID

### IV. DISCLOSURES

- A. The disclosures hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The bidder further certifies that the Department has received the disclosure forms for each bid.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract and the surety providing the performance bond shall be responsible for completion of the contract.

### B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the Procurement Code or the existence of a conflict of interest as provided in subsections (b) and (d) of Section 50-35.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

**The current annual salary of the Governor is \$177,412.00.**

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies. **The forms must be included with each bid.**

### C. Disclosure Form Instructions

#### Form A Instructions for Financial Information & Potential Conflicts of Interest

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on Form A must be signed and dated by a person that is authorized to execute contracts for the bidding company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity? YES \_\_\_ NO \_\_\_
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than 60% of the annual salary of the Governor? YES \_\_\_ NO
3. Does anyone in your organization receive more than 60% of the annual salary of the Governor of the bidding entity's or parent entity's distributive income? YES \_\_\_ NO \_\_\_
4. Does anyone in your organization receive greater than 5% of the bidding entity's or parent entity's total distributive income, but which is less than 60% of the annual salary of the Governor? YES \_\_\_ NO \_\_\_

(Note: Only one set of forms needs to be completed per person per bid even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The bidder must determine each individual in the bidding entity or the bidding entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable.** The person signing can be, but does not have to be, the person for which the form is being completed. The bidder is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the NOT APPLICABLE STATEMENT of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

## RETURN WITH BID

### **Form B: Instructions for Identifying Other Contracts & Procurement Related Information**

Disclosure Form B must be completed for each bid submitted by the bidding entity. *Note: Checking the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, checked, and dated or the bidder may be considered nonresponsive and the bid will not be accepted.*

The Bidder shall identify, by checking Yes or No on Form B, whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the bidder only needs to complete the check box on the bottom of Form B. If "Yes" is checked, the bidder must do one of the following:

Option I: If the bidder did not submit an Affidavit of Availability to obtain authorization to bid, the bidder must list all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Do not include IDOT contracts. Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included. Bidders who submit Affidavits of Availability are suggested to use Option II.

Option II: If the bidder is required and has submitted an Affidavit of Availability in order to obtain authorization to bid, the bidder may write or type "See Affidavit of Availability" which indicates that the Affidavit of Availability is incorporated by reference and includes all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. For any contracts that are not covered by the Affidavit of Availability, the bidder must identify them on Form B or on an attached sheet(s). These might be such things as leases.

RETURN WITH BID

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**Form A  
Financial Information &  
Potential Conflicts of Interest  
Disclosure**

|                  |               |                           |
|------------------|---------------|---------------------------|
| Contractor Name  |               |                           |
| Legal Address    |               |                           |
| City, State, Zip |               |                           |
| Telephone Number | Email Address | Fax Number (if available) |

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Vendors desiring to enter into a contract with the State of Illinois must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for bids in excess of \$25,000, and for all open-ended contracts. **A publicly traded company may submit a 10K disclosure (or equivalent if applicable) in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.**

*The current annual salary of the Governor is \$177,412.00.*

**DISCLOSURE OF FINANCIAL INFORMATION**

- 1. Disclosure of Financial Information.** The individual named below has an interest in the BIDDER (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than 60% of the annual salary of the Governor. **(Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)**

|  |   |
|--|---|
| <b>FOR INDIVIDUAL (type or print information)</b>            |   |
| <b>NAME:</b>   | _____   |
| <b>ADDRESS</b>   | _____   |
| <b>Type of ownership/distributable income share:</b>         |   |
| stock _____  | sole proprietorship _____ Partnership _____ other: (explain on separate sheet): |
| % or \$ value of ownership/distributable income share: _____ |   |

- 2. Disclosure of Potential Conflicts of Interest.** Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

- (a) State employment, currently or in the previous 3 years, including contractual employment of services.  
Yes \_\_\_ No \_\_\_

If your answer is yes, please answer each of the following questions.

- Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes \_\_\_ No \_\_\_
- Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor provide the name the State agency for which you are employed and your annual salary. \_\_\_\_\_

**RETURN WITH BID**

3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor? Yes \_\_\_ No \_\_\_
4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15% in aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes \_\_\_ No \_\_\_

---

(b) State employment of spouse, father, mother, son, or daughter, including contractual employment for services in the previous 2 years.

Yes \_\_\_ No \_\_\_

If your answer is yes, please answer each of the following questions.

1. Is your spouse or any minor children currently an officer or employee of the Capitol Development Board or the Illinois State Toll Highway Authority? Yes \_\_\_ No \_\_\_
2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, provide the name of the spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. \_\_\_\_\_
- 
3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess 100% of the annual salary of the Governor? Yes \_\_\_ No \_\_\_
4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or any minor children entitled to receive (i) more than 15% in the aggregate of the total distributable income from your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes \_\_\_ No \_\_\_

---

(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years. Yes \_\_\_ No \_\_\_

---

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes \_\_\_ No \_\_\_

---

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United State of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years. Yes \_\_\_ No \_\_\_

---

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes \_\_\_ No \_\_\_

---

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government. Yes \_\_\_ No \_\_\_

---

**RETURN WITH BID**

(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter. Yes \_\_\_ No \_\_\_

---

(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes \_\_\_ No \_\_\_

---

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes \_\_\_ No \_\_\_

---

**3. Communication Disclosure.**

Disclose the name and address of each lobbyist and other agent of the bidder or offeror who is not identified in Section 2 of this form, who is has communicated, is communicating, or may communicate with any State officer or employee concerning the bid or offer. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the process and throughout the term of the contract. If no person is identified, enter "None" on the line below:

Name and address of person(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**RETURN WITH BID**

**4. Debarment Disclosure.** For each of the persons identified under Sections 2 and 3 of this form, disclose whether any of the following has occurred within the previous 10 years: debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): \_\_\_\_\_

Nature of disclosure: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPLICABLE STATEMENT**

**This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page. Under penalty of perjury, I certify the contents of this disclosure to be true and accurate to the best of my knowledge.**

Completed by:  \_\_\_\_\_ Date \_\_\_\_\_  
Signature of Individual or Authorized Representative

**NOT APPLICABLE STATEMENT**

**Under penalty of perjury, I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.**

**This Disclosure Form A is submitted on behalf of the CONTRACTOR listed on the previous page.**

\_\_\_\_\_ Date \_\_\_\_\_  
Signature of Authorized Representative

The bidder has a continuing obligation to supplement these disclosures under Sec. 50-35 of the Procurement Code.

RETURN WITH BID

ILLINOIS DEPARTMENT  
OF TRANSPORTATION

Form B  
Other Contracts &  
Procurement Related Information  
Disclosure

|                  |               |                           |
|------------------|---------------|---------------------------|
| Contractor Name  |               |                           |
| Legal Address    |               |                           |
| City, State, Zip |               |                           |
| Telephone Number | Email Address | Fax Number (if available) |

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for bids in excess of \$25,000, and for all open-ended contracts.

**DISCLOSURE OF OTHER CONTRACTS AND PROCUREMENT RELATED INFORMATION**

**1. Identifying Other Contracts & Procurement Related Information.** The BIDDER shall identify whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency: Yes \_\_\_ No \_\_\_

If "No" is checked, the bidder only needs to complete the signature box on the bottom of this page.

**2. If "Yes" is checked.** Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

**THE FOLLOWING STATEMENT MUST BE CHECKED**

|                          |  |       |
|--------------------------|--|-------|
| <input type="checkbox"/> | _____                                  | _____ |
|                          | Signature of Authorized Representative | Date  |

## **RETURN WITH BID**

### **SPECIAL NOTICE TO CONTRACTORS**

The following requirements of the Illinois Department of Human Rights' Rules and Regulations are applicable to bidders on all construction contracts advertised by the Illinois Department of Transportation:

#### **CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION**

- (a) All bidders on construction contracts shall complete and submit, along with and as part of their bids, a Bidder's Employee Utilization Form (Form BC-1256) setting forth a projection and breakdown of the total workforce intended to be hired and/or allocated to such contract work by the bidder including a projection of minority and female employee utilization in all job classifications on the contract project.
- (b) The Department of Transportation shall review the Employee Utilization Form, and workforce projections contained therein, of the contract awardee to determine if such projections reflect an underutilization of minority persons and/or women in any job classification in accordance with the Equal Employment Opportunity Clause and Section 7.2 of the Illinois Department of Human Rights' Rules and Regulations for Public Contracts adopted as amended on September 17, 1980. If it is determined that the contract awardee's projections reflect an underutilization of minority persons and/or women in any job classification, it shall be advised in writing of the manner in which it is underutilizing and such awardee shall be considered to be in breach of the contract unless, prior to commencement of work on the contract project, it submits revised satisfactory projections or an acceptable written affirmative action plan to correct such underutilization including a specific timetable geared to the completion stages of the contract.
- (c) The Department of Transportation shall provide to the Department of Human Rights a copy of the contract awardee's Employee Utilization Form, a copy of any required written affirmative action plan, and any written correspondence related thereto. The Department of Human Rights may review and revise any action taken by the Department of Transportation with respect to these requirements.





**RETURN WITH BID**

**Contract No. 60129  
MCHENRY County  
Section 132B-2  
Project NHF-0303(052)  
Route FAP 303  
District 1 Construction Funds**

**PART II. WORKFORCE PROJECTION - continued**

- B. Included in "Total Employees" under Table A is the total number of **new hires** that would be employed in the event the undersigned bidder is awarded this contract.

The undersigned bidder projects that: (number) \_\_\_\_\_ new hires would be recruited from the area in which the contract project is located; and/or (number) \_\_\_\_\_ new hires would be recruited from the area in which the bidder's principal office or base of operation is located.

- C. Included in "Total Employees" under Table A is a projection of numbers of persons to be employed directly by the undersigned bidder as well as a projection of numbers of persons to be employed by subcontractors.

The undersigned bidder estimates that (number) \_\_\_\_\_ persons will be directly employed by the prime contractor and that (number) \_\_\_\_\_ persons will be employed by subcontractors.

**PART III. AFFIRMATIVE ACTION PLAN**

- A. The undersigned bidder understands and agrees that in the event the foregoing minority and female employee utilization projection included under **PART II** is determined to be an underutilization of minority persons or women in any job category, and in the event that the undersigned bidder is awarded this contract, he/she will, prior to commencement of work, develop and submit a written Affirmative Action Plan including a specific timetable (geared to the completion stages of the contract) whereby deficiencies in minority and/or female employee utilization are corrected. Such Affirmative Action Plan will be subject to approval by the contracting agency and the **Department of Human Rights**.
- B. The undersigned bidder understands and agrees that the minority and female employee utilization projection submitted herein, and the goals and timetable included under an Affirmative Action Plan if required, are deemed to be part of the contract specifications.

Company \_\_\_\_\_

Telephone Number \_\_\_\_\_

Address \_\_\_\_\_

**NOTICE REGARDING SIGNATURE**

The Bidder's signature on the Proposal Signature Sheet will constitute the signing of this form. The following signature block needs to be completed only if revisions are required.

Signature:  \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

- Instructions: All tables must include subcontractor personnel in addition to prime contractor personnel.
- Table A - Include both the number of employees that would be hired to perform the contract work and the total number currently employed (Table B) that will be allocated to contract work, and include all apprentices and on-the-job trainees. The "Total Employees" column should include all employees including all minorities, apprentices and on-the-job trainees to be employed on the contract work.
- Table B - Include all employees currently employed that will be allocated to the contract work including any apprentices and on-the-job trainees currently employed.
- Table C - Indicate the racial breakdown of the total apprentices and on-the-job trainees shown in Table A.

**RETURN WITH BID**

**ADDITIONAL FEDERAL REQUIREMENTS**

In addition to the Required Contract Provisions for Federal-Aid Construction Contracts (FHWA 1273), all bidders make the following certifications.

- A. By the execution of this proposal, the signing bidder certifies that the bidding entity has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid. This statement made by the undersigned bidder is true and correct under penalty of perjury under the laws of the United States.
- B. CERTIFICATION, EQUAL EMPLOYMENT OPPORTUNITY:
1. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause. YES \_\_\_\_\_ NO \_\_\_\_\_
  2. If answer to #1 is yes, have you filed with the Joint Reporting Committee, the Director of OFCC, any Federal agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements of those organizations? YES \_\_\_\_\_ NO \_\_\_\_\_

**RETURN WITH BID**

**Contract No. 60I29  
MCHENRY County  
Section 132B-2  
Project NHF-0303(052)  
Route FAP 303  
District 1 Construction Funds**

PROPOSAL SIGNATURE SHEET

The undersigned bidder hereby makes and submits this bid on the subject Proposal, thereby assuring the Department that all requirements of the Invitation for Bids and rules of the Department have been met, that there is no misunderstanding of the requirements of paragraph 3 of this Proposal, and that the contract will be executed in accordance with the rules of the Department if an award is made on this bid.

(IF AN INDIVIDUAL)

Firm Name \_\_\_\_\_  
Signature of Owner \_\_\_\_\_  
Business Address \_\_\_\_\_  
\_\_\_\_\_

(IF A CO-PARTNERSHIP)

Firm Name \_\_\_\_\_  
By \_\_\_\_\_  
Business Address \_\_\_\_\_  
Name and Address of All Members of the Firm: \_\_\_\_\_  
\_\_\_\_\_

(IF A CORPORATION)

Corporate Name \_\_\_\_\_  
By \_\_\_\_\_  
Signature of Authorized Representative \_\_\_\_\_  
Typed or printed name and title of Authorized Representative \_\_\_\_\_  
Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW)  
Business Address \_\_\_\_\_

(IF A JOINT VENTURE)

Corporate Name \_\_\_\_\_  
By \_\_\_\_\_  
Signature of Authorized Representative \_\_\_\_\_  
Typed or printed name and title of Authorized Representative \_\_\_\_\_  
Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
Business Address \_\_\_\_\_  
\_\_\_\_\_

If more than two parties are in the joint venture, please attach an additional signature sheet.



Return with Bid

Division of Highways
Proposal Bid Bond
(Effective November 1, 1992)

Item No. \_\_\_\_\_

Letting Date \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, That We \_\_\_\_\_

as PRINCIPAL, and \_\_\_\_\_

\_\_\_\_\_ as SURETY, are held jointly, severally and firmly bound unto the STATE OF ILLINOIS in the penal sum of 5 percent of the total bid price, or for the amount specified in Article 102.09 of the "Standard Specifications for Road and Bridge Construction" in effect on the date of invitation for bids, whichever is the lesser sum, well and truly to be paid unto said STATE OF ILLINOIS, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH, that whereas, the PRINCIPAL has submitted a bid proposal to the STATE OF ILLINOIS, acting through the Department of Transportation, for the improvement designated by the Transportation Bulletin Item Number and Letting Date indicated above.

NOW, THEREFORE, if the Department shall accept the bid proposal of the PRINCIPAL; and if the PRINCIPAL shall, within the time and as specified in the bidding and contract documents, submit a DBE Utilization Plan that is accepted and approved by the Department; and if, after award by the Department, the PRINCIPAL shall enter into a contract in accordance with the terms of the bidding and contract documents including evidence of the required insurance coverages and providing such bond as specified with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof; or if, in the event of the failure of the PRINCIPAL to make the required DBE submission or to enter into such contract and to give the specified bond, the PRINCIPAL pays to the Department the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the Department may contract with another party to perform the work covered by said bid proposal, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

IN THE EVENT the Department determines the PRINCIPAL has failed to comply with any requirement as set forth in the preceding paragraph, then Surety shall pay the penal sum to the Department within fifteen (15) days of written demand therefor. If Surety does not make full payment within such period of time, the Department may bring an action to collect the amount owed. Surety is liable to the Department for all its expenses, including attorney's fees, incurred in any litigation in which it prevails either in whole or in part.

In TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by

their respective officers this \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_.

PRINCIPAL

SURETY

(Company Name)

(Company Name)

By \_\_\_\_\_ (Signature & Title)

By: \_\_\_\_\_ (Signature of Attorney-in-Fact)

Notary Certification for Principal and Surety

STATE OF ILLINOIS,
County of \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public in and for said County, do hereby certify that

\_\_\_\_\_ and \_\_\_\_\_
(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this \_\_\_\_\_ day of \_\_\_\_\_ A.D. \_\_\_\_\_

My commission expires \_\_\_\_\_

Notary Public

In lieu of completing the above section of the Proposal Bid Form, the Principal may file an Electronic Bid Bond. By signing the proposal and marking the check box next to the Signature and Title line below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the State of Illinois under the conditions of the bid bond as shown above.

Electronic Bid Bond ID# \_\_\_\_\_

Company / Bidder Name \_\_\_\_\_

Signature and Title \_\_\_\_\_



**(1) Policy**

It is public policy that disadvantageded businesses as defined in 49 CFR Part 26 and the Special Provision shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal or State funds. Consequently the requirements of 49 CFR Part 26 apply to this contract.

**(2) Obligation**

The contractor agrees to ensure that disadvantageded businesses as defined in 49 CFR Part 26 and the Special Provision have the maximum opportunity to participate in the performance of contracts or subcontracts financed in whole or in part with Federal or State funds. The contractor shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 and the Special Provision to ensure that said businesses have the maximum opportunity to compete for and perform under this contract. The contractor shall not discriminate on the basis of race, color, national origin or sex in the award and performance of contracts.

**(3) Project and Bid Identification**

Complete the following information concerning the project and bid:

|                        |  |
|------------------------|--|
| Route _____            | Total Bid _____  |
| Section _____          | Contract DBE Goal _____<br>(Percent) _____ (Dollar Amount) |
| Project _____          |  |
| County _____           |  |
| Letting Date _____     |  |
| Contract No. _____     |  |
| Letting Item No. _____ |  |

**(4) Assurance**

I, acting in my capacity as an officer of the undersigned bidder (or bidders if a joint venture), hereby assure the Department that on this project my company : (check one)

- Meets or exceeds contract award goals and has provided documented participation as follows:  
Disadvantaged Business Participation \_\_\_\_\_ percent
- Attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.
- Failed to meet contract award goals and has included good faith effort documentation to meet the goals and that my company has provided participation as follows:  
Disadvantaged Business Participation \_\_\_\_\_ percent
- The contract goals should be accordingly modified or waived. Attached is all information required by the Special Provision in support of this request including good faith effort. Also attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.

\_\_\_\_\_  
Company

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

The "as read" Low Bidder is required to comply with the Special Provision.

Submit only one utilization plan for each project. The utilization plan shall be submitted in accordance with the special provision.

|   |   |
|---|---|
| Bureau of Small Business Enterprises<br>2300 South Dirksen Parkway<br>Springfield, Illinois 62764 | <b><u>Local Let Projects</u></b><br>Submit forms to the<br>Local Agency |
|---|---|

The Department of Transportation is requesting disclosure of information that is necessary to accomplish the purpose as outlined under State and Federal law. Disclosure of this information is **REQUIRED**. Failure to provide any information will result in the contract not being awarded. This form has been approved by the State Forms Manager Center.



Subcontractor Registration \_\_\_\_\_

Letting \_\_\_\_\_

Participation Statement

Item No. \_\_\_\_\_

(1) Instructions

Contract \_\_\_\_\_

This form must be completed for each disadvantaged business participating in the Utilization Plan. This form shall be submitted in accordance with the special provision and will be attached to the Utilization Plan form.. If additional space is needed complete an additional form for the firm.

(2) Work

Table with 5 columns: Pay Item No., Description, Quantity, Unit Price, Total. Includes a Total row at the bottom right.

(3) Partial Payment Items

For any of the above items which are partial pay items, specifically describe the work and subcontract dollar amount:

(4) Commitment

The undersigned certify that the information included herein is true and correct, and that the DBE firm listed below has agreed to perform a commercially useful function in the work of the contract item(s) listed above and to execute a contract with the prime contractor. The undersigned further understand that no changes to this statement may be made without prior approval from the Department's Bureau of Small Business Enterprises and that complete and accurate information regarding actual work performed on this project and the payment therefore must be provided to the Department.

Signature for Prime Contractor

Signature for DBE Firm

Title \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

Date \_\_\_\_\_

Contact \_\_\_\_\_

Contact Person \_\_\_\_\_

Phone \_\_\_\_\_

Phone \_\_\_\_\_

Firm Name \_\_\_\_\_

Firm Name \_\_\_\_\_

Address \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

City/State/Zip \_\_\_\_\_

E \_\_\_\_\_

WC \_\_\_\_\_

The Department of Transportation is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under the state and federal law. Disclosure of this information is REQUIRED. Failure to provide any information will result in the contract not being awarded. This form has been approved by the State Forms Management Center.

# PROPOSAL ENVELOPE



## PROPOSALS

for construction work advertised for bids by the  
Illinois Department of Transportation

| Item No. | Item No. | Item No. |
|----------|----------|----------|
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |

Submitted By:

|           |
|-----------|
| Name:     |
| Address:  |
|           |
|           |
| Phone No. |

Bidders should use an IDOT proposal envelope or affix this form to the front of a 10" x 13" envelope for the submittal of bids. If proposals are mailed, they should be enclosed in a second or outer envelope addressed to:

Engineer of Design and Environment - Room 326  
Illinois Department of Transportation  
2300 South Dirksen Parkway  
Springfield, Illinois 62764

### **NOTICE**

**Individual bids, including Bid Bond and/or supplemental information if required, should be securely stapled.**



# CONTRACTOR OFFICE COPY OF CONTRACT SPECIFICATIONS

## NOTICE

None of the following material needs to be returned with the bid package unless the special provisions require documentation and/or other information to be submitted.

**Contract No. 60129  
MCHENRY County  
Section 132B-2  
Project NHF-0303(052)  
Route FAP 303  
District 1 Construction Funds**



**Illinois Department of Transportation**

## **SUBCONTRACTOR DOCUMENTATION**

Public Acts 96-0795 and 96-0920, enacted substantial changes to the provisions of the Illinois Procurement Code (30 ILCS 500). Among the changes are provisions affecting subcontractors. The Contractor awarded this contract will be required as a material condition of the contract to implement and enforce the contract requirements applicable to subcontractors approved in accordance with article 108.01 of the Standard Specifications for Road and Bridge Construction.

If the Contractor seeks approval of subcontractors to perform a portion of the work, and approval is granted by the Department, the Contractor shall provide a copy of the subcontract to the Chief Procurement Officer within 20 calendar days after execution of the subcontract.

The subcontract shall contain the certifications required to be made by subcontractors pursuant to Article 50 of the Illinois Procurement Code. This Notice to Bidders includes a document incorporating all required subcontractor certifications and disclosures for use by the Contractor in compliance with this mandate. The document is entitled State Required Ethical Standards Governing Subcontractors.

## RETURN WITH SUBCONTRACT

### STATE ETHICAL STANDARDS GOVERNING SUBCONTRACTORS

Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

The certifications hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed should the Department approve the subcontractor. The chief procurement officer may terminate or void the subcontract approval if it is later determined that the bidder or subcontractor rendered a false or erroneous certification.

Section 50-2 of the Illinois Procurement Code provides that every person that has entered into a multi-year contract and every subcontractor with a multi-year subcontract shall certify, by July 1 of each fiscal year covered by the contract after the initial fiscal year, to the responsible chief procurement officer whether it continues to satisfy the requirements of Article 50 pertaining to the eligibility for a contract award. If a contractor or subcontractor is not able to truthfully certify that it continues to meet all requirements, it shall provide with its certification a detailed explanation of the circumstances leading to the change in certification status. A contractor or subcontractor that makes a false statement material to any given certification required under Article 50 is, in addition to any other penalties or consequences prescribed by law, subject to liability under the Whistleblower Reward and Protection Act for submission of a false claim.

#### **A. Bribery**

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

(a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

(1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

(2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

(b) Businesses. No business shall be barred from contracting with any unit of State or local government, or subcontracting under such a contract, as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

(1) the business has been finally adjudicated not guilty; or

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract to which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

(c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

(d) Certification. Every bid submitted to and contract executed by the State, and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the contractor or the subcontractor, respectively, that the contractor or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any certifications required by this Section are false. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50.5.

#### **B. Felons**

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any State agency, or enter into a subcontract, from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

2. Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder or contractor or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any of the certifications required by this Section are false.

## RETURN WITH SUBCONTRACT

### **C. Debt Delinquency**

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency.

The contractor or bidder or subcontractor, respectively, certifies that it, or any affiliate, is not barred from being awarded a contract or subcontract under the Procurement Code. Section 50-11 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The bidder or contractor or subcontractor, respectively, further acknowledges that the chief procurement officer may declare the related contract void if this certification is false or if the bidder, contractor, or subcontractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

### **D. Prohibited Bidders, Contractors and Subcontractors**

1. The Illinois Procurement Code provides:

Section 50-10.5 and 50-60(c). Prohibited bidders, contractors and subcontractors.

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 or if in violation of Subsection (c) for a period of five years from the date of conviction.. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder, contractor, or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer shall declare the related contract void if any of the certifications completed pursuant to this Section are false.

### **E. Section 42 of the Environmental Protection Act**

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-12 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Procurement Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the chief procurement officer may declare the contract void if this certification is false.

**The undersigned, on behalf of the subcontracting company, has read and understands the above certifications and makes the certifications as required by law.**

\_\_\_\_\_  
Name of Subcontracting Company

\_\_\_\_\_  
Authorized Officer

\_\_\_\_\_  
Date

**RETURN WITH SUBCONTRACT**  
**SUBCONTRACTOR DISCLOSURES**

**I. DISCLOSURES**

- A.** The disclosures hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed. The subcontractor further certifies that the Department has received the disclosure forms for each subcontract.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract or subcontract.

**B. Financial Interests and Conflicts of Interest**

1. Section 50-35 of the Illinois Procurement Code provides that all subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code, shall be accompanied by disclosure of the financial interests of the subcontractor. This disclosed information for the subcontractor, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the Prime Contractor's contract. Furthermore, pursuant to this Section, the Procurement Policy Board may recommend to allow or void a contract or subcontract based on a potential conflict of interest.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the subcontracting entity or its parent entity, whichever is less, unless the subcontractor is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

**The current annual salary of the Governor is \$177,412.00.**

In addition, all disclosures shall indicate any other current or pending contracts, subcontracts, proposals, leases, or other ongoing procurement relationships the subcontracting entity has with any other unit of state government and shall clearly identify the unit and the contract, subcontract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies.

**C. Disclosure Form Instructions**

**Form A Instructions for Financial Information & Potential Conflicts of Interest**

If the subcontractor is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a subcontractor is not subject to Federal 10K reporting, the subcontractor must determine if any individuals are required by law to complete a financial disclosure form. To do this, the subcontractor should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the **NOT APPLICABLE STATEMENT** on the second page of Form A must be signed and dated by a person that is authorized to execute contracts for the subcontracting company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity? YES \_\_\_ NO \_\_\_
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than 60% of the annual salary of the Governor? YES \_\_\_ NO \_\_\_
3. Does anyone in your organization receive more than 60% of the annual salary of the Governor of the subcontracting entity's or parent entity's distributive income? YES \_\_\_ NO \_\_\_

(Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not distributive income.)

4. Does anyone in your organization receive greater than 5% of the subcontracting entity's or parent entity's total distributive income, but which is less than 60% of the annual salary of the Governor? YES \_\_\_ NO \_\_\_

(Note: Only one set of forms needs to be completed per person per subcontract even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The subcontractor must determine each individual in the subcontracting entity or the subcontracting entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable.** The person signing can be, but does not have to be, the person for which the form is being completed. The subcontractor is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the **NOT APPLICABLE STATEMENT** on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

## RETURN WITH SUBCONTRACT

### **Form B: Instructions for Identifying Other Contracts & Procurement Related Information**

Disclosure Form B must be completed for each subcontract submitted by the subcontracting entity. *Note: Checking the NOT APPLICABLE STATEMENT on Form A does not allow the subcontractor to ignore Form B. Form B must be completed, checked, and dated or the subcontract will not be approved.*

The Subcontractor shall identify, by checking Yes or No on Form B, whether it has any pending contracts, subcontracts, leases, bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the subcontractor only needs to complete the check box on the bottom of Form B. If "Yes" is checked, the subcontractor must list all non-IDOT State of Illinois agency pending contracts, subcontracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts or subcontracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included.

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A Subcontractor: Financial Information & Potential Conflicts of Interest Disclosure

Subcontractor Name, Legal Address, City, State, Zip, Telephone Number, Email Address, Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Subcontractors desiring to enter into a subcontract of a State of Illinois contract must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code, and for all open-ended contracts. A publicly traded company may submit a 10K disclosure (or equivalent if applicable) in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.

The current annual salary of the Governor is \$177,412.00.

DISCLOSURE OF FINANCIAL INFORMATION

1. Disclosure of Financial Information. The individual named below has an interest in the SUBCONTRACTOR (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than 60% of the annual salary of the Governor. (Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)

FOR INDIVIDUAL (type or print information) NAME: ADDRESS Type of ownership/distributable income share: stock sole proprietorship Partnership other: (explain on separate sheet): % or \$ value of ownership/distributable income share:

2. Disclosure of Potential Conflicts of Interest. Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

(a) State employment, currently or in the previous 3 years, including contractual employment of services. Yes \_\_\_ No \_\_\_

If your answer is yes, please answer each of the following questions.

- 1. Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes \_\_\_ No \_\_\_
2. Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, provide the name the State agency for which you are employed and your annual salary.

**RETURN WITH SUBCONTRACT**

3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor?  
Yes \_\_\_ No \_\_\_

4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor?  
Yes \_\_\_ No \_\_\_

---

(b) State employment of spouse, father, mother, son, or daughter, including contractual employment services in the previous 2 years.

Yes \_\_\_ No \_\_\_

If your answer is yes, please answer each of the following questions.

1. Is your spouse or any minor children currently an officer or employee of the Capitol Development Board or the Illinois State Toll Highway Authority?  
Yes \_\_\_ No \_\_\_

2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, provide the name of your spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. \_\_\_\_\_

---

3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor?  
Yes \_\_\_ No \_\_\_

4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor?  
Yes \_\_\_ No \_\_\_

---

(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years.  
Yes \_\_\_ No \_\_\_

---

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter.  
Yes \_\_\_ No \_\_\_

---

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years.  
Yes \_\_\_ No \_\_\_

---

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter.  
Yes \_\_\_ No \_\_\_

---

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government.  
Yes \_\_\_ No \_\_\_

---



**RETURN WITH SUBCONTRACT**

(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter. Yes \_\_\_ No \_\_\_

(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes \_\_\_ No \_\_\_

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes \_\_\_ No \_\_\_

**3. Communication Disclosure.**

Disclose the name and address of each lobbyist and other agent of the bidder or offeror who is not identified in Section 2 of this form, who is has communicated, is communicating, or may communicate with any State officer or employee concerning the bid or offer. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the process and throughout the term of the contract. If no person is identified, enter "None" on the line below:

Name and address of person(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**RETURN WITH SUBCONTRACT**

**4. Debarment Disclosure.** For each of the persons identified under Sections 2 and 3 of this form, disclose whether any of the following has occurred within the previous 10 years: debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): \_\_\_\_\_

Nature of disclosure: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPLICABLE STATEMENT**

**This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page. Under penalty of perjury, I certify the contents of this disclosure to be true and accurate to the best of my knowledge.**

Completed by:  \_\_\_\_\_ Date \_\_\_\_\_  
Signature of Individual or Authorized Officer

**NOT APPLICABLE STATEMENT**

**Under penalty of perjury, I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.**

**This Disclosure Form A is submitted on behalf of the SUBCONTRACTOR listed on the previous page.**

\_\_\_\_\_ Date \_\_\_\_\_  
Signature of Authorized Officer

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT  
OF TRANSPORTATION

Form B  
Subcontractor: Other Contracts &  
Procurement Related Information  
Disclosure

|                    |               |                           |
|--------------------|---------------|---------------------------|
| Subcontractor Name |               |                           |
| Legal Address      |               |                           |
| City, State, Zip   |               |                           |
| Telephone Number   | Email Address | Fax Number (if available) |

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code, and for all open-ended contracts.

**DISCLOSURE OF OTHER CONTRACTS, SUBCONTRACTS, AND PROCUREMENT RELATED INFORMATION**

**1. Identifying Other Contracts & Procurement Related Information.** The SUBCONTRACTOR shall identify whether it has any pending contracts, subcontracts, including leases, bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency: Yes \_\_\_ No \_\_\_

If "No" is checked, the subcontractor only needs to complete the signature box on the bottom of this page.

**2. If "Yes" is checked.** Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

**THE FOLLOWING STATEMENT MUST BE CHECKED**

|                          |                                 |       |
|--------------------------|---------------------------------|-------|
| <input type="checkbox"/> | _____                           | _____ |
|                          | Signature of Authorized Officer | Date  |



- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m., April 29, 2011. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 60I29  
MCHENRY County  
Section 132B-2  
Project NHF-0303(052)  
Route FAP 303  
District 1 Construction Funds**

**Bridge replacement of the structure carrying IL 173 over Nippersink Creek (SN 056-0091) with a 87'-7" back to back abutment, precast, prestressed concrete I-Beam bridge located in Hebron Township.**

- 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 readvertise the proposed improvement, and to waive technicalities.

By Order of the  
Illinois Department of Transportation

Gary Hannig,  
Secretary

INDEX  
 FOR  
 SUPPLEMENTAL SPECIFICATIONS  
 AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2011

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-07) (Revised 1-1-11)

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## STATE OF ILLINOIS

### SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2007, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways" and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the "Supplemental Specifications and Recurring Special Provisions" indicated on the Check Sheet included herein which apply to and govern the construction of FAP 303 (IL 173), Project NHF-0303 (052), Section 132 B-2, in McHenry County, Contract 60I29, and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

Illinois Route 173 (FAP Route 303)  
Over Nippersink Creek  
Project NHF-0303 (052)  
Section: 132B-2  
County: McHenry  
Contract 60I29

#### LOCATION OF PROJECT

The project is located approximately two miles west of IL Route 47. The project begins at a point on the centerline of Illinois Route 173, at Sta. 431+41.60 and extends in a easterly direction to Sta. 450+50.00. The total project length is 1908.4 feet (0.36 mile).

#### DESCRIPTION OF PROJECT

This project includes the removal and replacement of the entire bridge structure over the Nippersink Creek and the reconstruction of the roadway on each end to match the new structure. The project will include pavement removal, PCC Pavement, PCC, hot-mix asphalt and aggregate shoulders, ditch grading and shaping, earth excavation, furnished excavation, topsoil striping and placement, placement of pavement marking, landscaping and all incidental and collateral work necessary to complete the project as shown on plans and as described herein.

#### MAINTENANCE OF ROADWAYS

Effective: September 30, 1985

Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

**STATUS OF UTILITIES TO BE ADJUSTED**

Effective: January 30, 1987

Revised: July 1, 1994

Utility companies involved in this project have provided the following estimated dates:

| <u>Name of Utility</u>                           | <u>Type</u>  | <u>Location</u>   | <u>Estimated Dates for Start and Completion of Relocation or Adjustments</u> |
|--|--------------|---|--|
| ComEd<br>Ilyas Mohiuddin<br>708-234-2692         | Transmission | Power Poles<br>436+03, 38'LT<br>438+43, 38' LT<br>440+90, 38'LT<br>443+26, 41' LT<br>444+60, 40' LT | March 2011   |
| Nicor  | Gas          | North Side  | Not Anticipated  |
| Mediacom<br>Matt Forgas<br>630-365-0045<br>X6004 | Fiber        | Fiber Optics<br>436+50, 22'RT<br>443+50, 22'RT<br>436+63, 23' RT<br>440+90, 41' RT<br>441+75,41'RT  | March 2011   |
| Verizon North                                    | Telephone    | North/South Side  | Not Anticipated  |
| ANR  | Gas          | North/South Side  | N/A  |

The above represents the best information available to the Department and is included for the convenience of the bidder. The applicable portions of Articles 105.07 and 107.31 of the Standard Specifications shall apply.

**COMPLETION DATE PLUS WORKING DAYS**

Effective: September 30, 1985

Revised: January 1, 2007

Revise Article 108.05 (b) of the Standard Specifications as follows:

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on, **November 18, 2011** except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within **5** working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean-up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

Liquidated Damages in accordance with BDE 80230 Special Provision for Failure to Complete the Work on Time, if included in this contract, shall apply to both the completion date and the number of working days.

### **EMBANKMENT SETTLEMENT WAITING PERIOD**

Description: This item shall consist of a mandatory waiting period of 30 days required after the completion of the embankment construction and placement of the aggregate Subgrade, 12 inches prior to the beginning of paving operations.

Locations: General locations apply to:

Station 444+75 to Back of East Abutment (Station 441+75)  
Station 438+00 to Back of West Abutment (Station 441+00).

Basis of Payment: There will be no additional compensation for this settlement period.

### **APPROACH SLAB REMOVAL**

Description: This work shall consist of removing of the existing poured in place concrete approach slab, sleeper slab and any other components of the approach slab..

This work shall be done according to the applicable portions of Section 501 of the Standard Specifications.

Basis of Payment: This work shall be paid for at the contract unit price per square yard for APPROACH SLAB REMOVAL, which shall include removal and disposal of reinforced approach pavement, sleeper slabs, joints, reinforcement bars and all labor, equipment and material necessary for completion of the work. There will be no adjustment to contract unit cost for variation in the pavement area, composition or thickness of the pavements to be removed as Approach Slab Removal.

### **SAW CUTTING**

Description: This item refers to all locations where the a saw cut is required for the removal of pavement, curb, gutter, medians, driveways, sidewalk, butt joints, patches or any other structure which are all one piece with no construction joints. This saw cut shall be made at the limits of construction or other areas as required to perform the proposed improvements shown on the plans. The saw cut shall be accomplished with a "pavement saw". Vermeer type trenchers will not be allowed for final saw cut at the limits of construction.

Basis of Payment: Saw cutting shall not be paid for separately, but shall be considered INCLUDED in the unit contract price of the related removal item.

## **FENCE REMOVAL**

Description: This item shall consist of removing and disposing of the existing three strand barb wire fence and post at the locations shown in the plans and applicable requirements of section 665 of the Standard Specifications.

Basis of Payment: This work shall be paid for at the contract unit price per foot for FENCE REMOVAL, which prices shall include removal and disposal of the fence, post, hardware and all material, labor, tools, equipment, disposal of surplus material, and incidentals necessary to complete this item of work.

## **CONCRETE GUTTER, TYPE B (SPECIAL)**

Description: This work shall be constructed in accordance with Section 606 of the Standard Specifications, State Standard 606001, special details in the plans, and to the lines, grades and cross sections as shown on the plans and as directed by the Engineer.

Basis of Payment: This work shall be paid for at the contract unit price per foot for CONCRETE GUTTER, TYPE B (SPECIAL), which prices shall include concrete, tie bars and all material, labor, tools, equipment, and incidentals necessary to complete this item of work.

## **PAVED DITCH CLEANING**

Description: This work shall consist be of cleaning the existing paved ditch of all silt, dirt, grinding and other debris that has built up in the paved ditch at the locations shown on the plans and as directed by the Engineer.

Basis of Payment: This work shall be paid for at the contract unit price per foot for CLEANING PAVED DITCH, which prices shall include removal and disposal off site of all removed materials and all material, labor, tools, equipment, disposal of surplus material, and incidentals necessary to complete this item of work.

## **PAVEMENT BREAKING**

Description: This work shall consist of breaking the existing pavement according to Article 205.03(b)(1) of the Standard Specifications, except that all pavement that is not removed, but has greater than or equal to 3" fall from the bottom of the subbase to the existing pavement shall be broken.

Basis of Payment: All costs incurred in complying with the provisions shall be considered included in the contract unit price per Square Yard for PAVEMENT BREAKING.

## **EROSION CONTROL**

Description: This work shall consist of providing and placing various erosion control items as shown in the plans as required by Section 251 of the Standard Specifications and these special provisions.

**Article 251.04 has been modified to reflect the following specifications:**

**Erosion Control Blanket.** Erosion control blanket will be placed using knitted straw blanket. The blanket shall be placed as temporary mulch or placed within 24 hours after seeding operations have been completed on the areas specified. Prior to placing the blanket, the areas to be covered shall be relatively free of rocks or clods over 1 1/2 in. (40 mm) in diameter, and sticks or other foreign material which will prevent the close contact of the blanket with the seed bed. If, as a result of rain or other precipitation, the prepared seed bed becomes crusted or eroded, or if eroded places, ruts, or depressions exist for any reason, the Contractor shall rework the soil until it is smooth and reseed such areas which are reworked.

After the area has been properly shaped, fertilized, and seeded, the blanket shall be laid out flat, evenly, and smoothly, without stretching the material. The blankets shall be placed so that the netting is on the top and the fibers are in contact with the soil.

For placement in ditches, the erosion control blanket shall be applied parallel to the centerline of the ditch so that there are no longitudinal seams within 2 ft (600 mm) of the bottom centerline of the ditch. The blanket shall be toed in on the upslope edge and shingled or overlapped with the flow.

On slopes, the blanket shall be applied either horizontally or vertically to the contour, toed in on the upslope edge, and shingled or overlapped with the flow.

Anchoring the blankets in ditches and on slopes shall be as follows.

(b) **Knitted Straw Blanket.** In ditches, the blankets shall be stapled in place using six staples across the upstream end at the start of each roll. Additional staples shall be spaced in a diamond pattern with the long axis in the direction of the slope and the short axis across the slope. The longer dimension shall be a maximum of 6 ft (1.8 m) and the shorter dimension shall be a maximum of 3 ft (900 mm). A common row of staples may be used on adjoining rolls.

(b) **Temporary Mulch.** This system consists of installing temporary mulch cover using erosion control blanket over designated areas to prevent sheet erosion of areas that are to be altered during a later construction phase. The temporary mulch cover shall be according to either Article 251.03(a) or Article 251.03(b).

On slopes, the blankets shall be stapled per the manufacturer's specifications.

- **Erosion Control Blanket**
  - 45 days to 12 months longevity
  - make sure blanket will last during winter shutdown
  - Net(s)
    - photodegradable polypropylene, accelerated photodegradable polypropylene, UV-stabilized polypropylene, or leno woven biodegradable jute
  - 100% agricultural straw, straw/coconut fiber matrix, or coconut fiber matrix
  - Thread
    - degradable, accelerated degradable, UV-stabilized polypropylene, or biodegradable
  - Max. Flow Velocity
    - at least 10.00 ft/s

**Turf Reinforcement Mat (TRM).** The TRM shall be specifically manufactured for both temporary and permanent erosion control, revegetation, and the reduction of water velocities in ditches and overflows. TRM shall be installed according to the manufacturer's recommendations.

- **Turf Reinforcement Mat**

- Net(s)
  - UV-stabilized or black polypropylene (with black polypropylene corrugated center net)
- UV Stabilized Poly Fiber, straw/coconut matrix, coconut fiber, or polypropylene fiber
- Thread
  - UV-stabilized polypropylene or permanent
- Permissible Velocity
  - At least 10.00 ft/s

- **Dry Powder or Granular Polymer**

- Dry Powder or Granular Polymer Application
  - A dry powder or granular polymer is a semi-hydrated polyacrylamide material that when placed within stormwater or construction site drainages will remove fine particles and reduce NTU values. Placement of the dry powder or granular polymer should be as close to the source of particle suspension as possible. Ideal performance of the polymer results when used in conjunction with other best management practices. Each dry powder or granular Polymer is formulated for the soil and water chemistry at the site. Soil and water samples when tested will determine which formula dry powder or granular polymer is needed along with proper placement.
  - Dry powder or granular polymer shall be selected and installed based on manufacturer's specifications.
  - Application rate of the dry powder or granular polymer shall be at the manufacturer's recommendation.
- Specifications
  - Polymer
- The polymer shall be a water soluble anionic polyacrylamide (PAM) used to minimize soil erosion, bind soil particles, remove suspended particles, and act as a construction aide. PAMs are manufactured in various forms to be used on specific soil types. Using the wrong PAM will result in performance failures. All site specific soils must be tested each time a PAM is used.
- Only use anionic polyacrylamide (PAM) polymer in Illinois
  - PAM Applications
- PAM shall be mixed and/or applied in accordance with all Occupational Safety and Health Administration (OSHA) material safety data sheet (MSDS) requirements and the manufacturer's recommendations for specified use.

(A.) Toxicity:

All vendors and suppliers of PAM, PAM mix or blends shall present or supply a written toxicity report which verifies that the PAM, PAM mix or blend exhibits acceptable toxicity parameters which meet or exceed the requirements for the State and Federal Water Quality Standards. **No Cationic formulations of PAM, PAM blends, polymers or Chitosan are not allowed for use under this specification.**



(B.)

All vendors and suppliers of PAM, PAM mix or blends shall supply written "site specific" testing

- Application rate of the dry powder or granular polymer shall be at the manufacturer's recommendation.
- ANSI/NSF Standard 60 Drinking water treatment chemical additives
- 48 hour or 96 hour Acute Toxicity Tests (D. magna or O. mykiss)
- 7 Day Chronic Toxicity Tests (P. promelas or C dubia)
- Dry powder or granular polymers are tailored for the specific requirement of water chemistry and soil within a given geographical area.
- Clarifier polymer is used for colloidal water and very fine suspended particles.
- Particle polymer is used for heavily particle laden water in areas before sediment traps and sediment ponds.
- Soil types in varying geographical areas will require testing. All testing required will be provided by the manufacturer.
- The manufacturer will be required to have a qualified representative on site when the contractor is applying the polymer to the project.

**Article 251.05 has been modified to reflect the following specifications:**

- (b) Measured Quantities. Mulch Methods 1, 2, 3, and 4 will be measured for payment in acres of surface area mulched. Erosion Control Blanket and Turf Reinforcement Mat will be measured for payment in place in square yards of actual surface area covered.

**Article 251.06 has been modified to reflect the following specifications:**

Add: This work will be paid for at the contract unit price per square yard for TURF REINFORCEMENT MAT.

The dry powder or granular polymer will not be measured separately for payment but shall be considered included in the cost of the erosion control blanket(s).

## **TEMPORARY DITCH CHECKS**

Description: This work consists of the installation of Temporary Ditch Checks in accordance with applicable articles of Section 280 of the Standard Specifications and as detailed on the plans. The work shall include supplying, installing, relocating, cleaning, and removal of Temporary Ditch Checks as directed by the Engineer.

Method of Measurement: This work shall be measured for payment as foot.

Basis of Payment: This work will be paid for at the contract unit price per foot for TEMPORARY DITCH CHECKS, which price shall be full compensation for all labor, equipment and materials required for performing the work as herein specified and detailed on the plans.

## **PERIMETER EROSION BARRIER (SUPER SILT FENCE)**

Description: This work consists of the installation of Super Silt Fence as a perimeter erosion control barrier in accordance with applicable articles of Section 280 of the Standard Specifications and as detailed on the plans.

The work shall include supplying, installing, relocating, cleaning, and removal of Super Silt Fence as directed by the Engineer.

Method of Measurement: This work shall be measured for payment as foot.

Basis of Payment: This work will be paid for at the contract unit price per foot for PERIMETER EROSION BARRIER, which price shall be full compensation for all labor, equipment and materials required for performing the work as herein specified and detailed on the plans.

### **IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE)**

This work shall consist of installing Temporary Impact Attenuators according to the BDE Special Provisions. Temporary sand module systems that are not located on pavement or a hot-mix asphalt shoulder shall be placed on a 6" base. The base can be either hot-mix asphalt or concrete.

The hot-mix asphalt base shall be constructed with incidental hot-mix asphalt surfacing according to Section 408 of the specifications book. The concrete base shall be constructed using class SI concrete.

The temporary impact attenuator and base shall be removed after the completion of work. The area under the base shall be restored to the original condition.

The cost of the base will be included in the contract unit price per Each for IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

### **TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT**

Description: This work consists of installing type 1 traffic barrier terminals at the locations shown on the plans in accordance with the applicable portions of Section 631 of the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price each for TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT. The price shall be payment in full for all labor equipment and materials necessary to complete the work.

### **IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3**

Description: This work consists of relocating the Temporary Impact Attenuators placed in Stage 1 for Stage 2 construction. The impact attenuators shall be moved to the locations specified by the staging plan sheets. The relocated impact attenuators shall be placed according to the requirement for Stage 1.

Basis of Payment: The cost of the base will be included in the contract unit price per Each for IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3.

## TRAFFIC CONTROL FOR NARROW TRAVEL LANES

The Contractor shall provide informational warning signs regarding narrow travel lanes in construction areas. MAX WIDTH XX'-XX" X MILES AHEAD (W12-I103-48) signs with a width restriction of 11'-6" shall be installed at the following locations and the distance from the crossroads as noted; Illinois Route 173 and Illinois Route 47 (2 MILES AHEAD) and at Illinois Route 173 and U.S. Route 14 (8 MILES AHEAD).

The material of these signs shall be 3.17 mm (0.125 in) thick aluminum, Type AP White and fluorescent orange reflective sheeting, and 6 inch D Series font Black vinyl lettering meeting the requirements of Sections 1090, 1091, and 1092 of the Standard Specifications for Road and Bridge Construction.

Additional Narrow Width (W12-I102(O)-48) signs with a width restriction of 11'-6" and a "\_\_\_\_ MILES" (W16-3A(O)-3612) plate mounted below the signs shall be installed near the intersections of Illinois Route 173 and Alden Road (2.5 MILES), Illinois Route 173 and Altenburg Road (6.5 MILES), and after the ROAD CONSTRUCTION AHEAD sign in the sign series.

The material of these signs shall be 0.125 inch thick aluminum, Type AA Fluorescent orange reflective sheeting, and 12 inch D Series font black vinyl lettering meeting the requirements of Sections 1090, 1091, and 1092 of the Standard Specifications for Road and Bridge Construction.

Two signs at each location shall be required where the median is greater than 10 feet.

Where the clear width through a work zone with temporary concrete barrier will be 16.0 ft or less, the Contractor shall notify the Resident Engineer in writing. **This request shall be submitted between three and four weeks (21 to 28 days) prior to the anticipated lane restriction to allow the State adequate time to permit wide loads.**

The contractor shall be responsible for providing, erecting, maintaining, and removing these signs. All cost involved in conforming to this provision shall be considered a part of TRAFFIC CONTROL AND PROTECTION 701321.

## CHANGEABLE MESSAGE SIGN

Description: The project will require that electronic changeable message signs be placed on the east and west side of the project to warn the public of the pending construction, lane closures and staging lane shifts. The message boards will initially need to be placed and set out for seven (7) days in advance of the anticipated first day of construction and again seven (7) days in advance of the anticipated first day of the staging shift from stage 1 to Stage 2. The message signs will remain in place for the duration of the calendar month(s) to warn of the construction activities and upcoming traffic signal. The contractor will coordinate with the Resident Engineer on the exact placement of the message boards and the message that is to be displayed.

Method of Measurement: Message board(s) will be paid for per calendar month for each message sign utilized (two are anticipated for this project).

Basis of Payment: The signs shall be removed after the specified number of days or months. The contractor will coordinate with the Engineer on the exact placement of the message boards and the message that is to be displayed. The message boards will be paid for as CHANGEABLE MESSAGE SIGN per calendar month for each message sign utilized. There will be no additional compensation for changing periodically changing the message.

## TEMPORARY INFORMATION SIGNS

Description: The project requires that temporary information signing will be erected on the east and west side of the bridge to inform the public of the construction duration. The contractor will coordinate with the Resident Engineer on the exact placement of the sign. The sign shall be in place for the entire duration of the contract or as directed by the Resident Engineer. The temporary sign will be as dimensioned on Std. TC22 except the message shall be as directed by the Resident Engineer.

This work shall consist of furnishing, installing, maintaining, relocating for various states of construction, and eventually removing temporary informational signs. Included in this item may be ground mount signs, skid mount signs, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

### Materials:

Materials shall be according to the following Articles of Section 1000- Materials:

| Item                       | Article/Section |
|----------------------------|-----------------|
| a. Sign Base (Notes 1 & 2) | 1090            |
| b. Sign Face (Note 3)      | 1091            |
| c. Sign Legends            | 1092            |
| d. Sign Supports           | 1093            |
| e. Overlay Panels (Note 4) | 1090.01         |

Note 1. The Contractor may use 16mm (5/8 inch) instead of 19mm (3/4 inch) thick plywood.

Note 2. Type A sheeting can be used on the plywood base.

Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1084.02(b).

Note 4. The overlay panels shall be 2mm (0.08 inch) thick.

### General Construction Requirements:

Installation: the Contractor prior to fabrication shall verify the sign sizes and legend sizes.

Signs, which are placed along the roadway and/or within the construction zone, shall be installed according to the requirements of Article 701.14 and Article 720.04. The signs shall be 2.1 m (7') above the near edge of the pavement and shall be a minimum of 600mm (2') beyond the edge of the paved shoulder. A minimum of 2 posts shall be used.

The Contractor shall place signs one (1) Week in advance of the start of any construction on each side of the project limits that will state construction starting here, the start date of construction and the number of months the construction is anticipated to last.

The attachment of temporary signs to existing sign structures or sign panels shall be approved by the Engineer. Any damage to the existing signs due to the Contractor's operations shall be repaired or signs replaced, as determined by the Engineer, at the Contractor's expense.

Basis of Payment: The signing, which includes post and mounting, will be paid as TEMPORARY INFORMATION SIGNING, per square foot of sign erected, which shall be full compensation for all labor, equipment and materials required for performing the work as herein specified. All hardware, posts, or skids, supports, bases for ground-mounted signs, connections, which are required for mounting these signs, will be included.

## **FIELD TILE REPAIR**

Description: The Contractor shall exercise care to protect all field or drain tiles from damage and to carefully watch the trench to locate all field or drain tiles which are cut by the construction activities. Any field or drain tiles cut by the construction activities shall be replaced as detailed described herein and as detailed on the plans. All field or drain tiles that cross the proposed improvement trench, shall be replaced, and shall qualify for payment under this item. Field or drain tiles that parallel the proposed improvement trenches and are more than three feet from the centerline of the trench shall be protected or restored by the Contractor at his own expense. Field or drain tiles that parallel the proposed improvement trenches and are less than three feet from the centerline of the trench shall be replaced by the Contractor (if damaged) and shall qualify for payment under this item. However, if field or drain tiles are encountered which are within three feet of the centerline of the proposed improvement trench, the engineer shall have the right to adjust the alignment of the proposed improvement so that the field or drain tile is beyond three feet from the centerline of the trench.

Where the location of field or drain tiles are known, they are shown on the plans, but is anticipated that other field or drain pipes exist which are not shown on the plans.

Materials: Replacement pipe shall materials shall meet the requirements of Section 611. The minimum pipe drain diameter will be 6 inches in diameter. Joints shall be as required by the manufacturer. If required, elastomeric couplings shall be suitable for adapting between two dissimilar pipes and sizes. The bands shall be screw adjustable bands of stainless steel.

A Type A Inlet will be constructed at junction of field or drain tiles and at the right of way to connect the tile. See the Summary of Quantities for the estimated quantities.

Bedding and backfill below and round the replacement pipe shall meet the requirements specified under Section 209 of the Standard Specifications, but shall be INCLUDED in the cost of the field or drain tile replacement.

Construction Methods: After the proposed improvement is installed, the Contractor shall install and compact gravel cradle from the bottom of the trench to the top of the field or drain tile replacement. In the event of a direct grade conflict between the proposed improvement and the field or drain tile, the engineer shall direct adjustment of the grade of the proposed improvement. The Contractor shall excavate for replacement of the field tile to one foot beyond the edge of the trench on each side. Replacement pipe shall be cut to the required length and the existing field or drain tile pipe shall be cut to allow butting of the pipes together. The replacement pipe shall be set and fastened to the existing field or drain tile with an elastomeric coupling and two stainless steel bands at each joint.

An inlet with a closed frame and lid will be set at all changes in directions. Gravel cradle shall be extended to the centerline of the replacement pipe and then the remainder of the trench shall be backfilled as shown on the plans.

#### Method of Measurement

Field or drain tile repair shall be measured on a lineal foot basis for the actual length of pipe replaced when the field tile parallels the improvement trench for the appropriate diameter.

#### Basis of Payment

Payment for field or drain tile repairs and/or replacements shall be made at the contract unit price bid per lineal foot for PIPE DRAINS 6" or PIPE DRAINS 8". Payment shall be full compensation for bedding, backfill, fittings, reducers, elastomeric couplings, and all materials, labor, equipment and incidentals to complete the item as shown on the plans or as directed by the Engineer.

Drainage structures required for the connection of drain tiles shall be paid for at the contract unit price per each for FIELD TILE JUNCTION VAULTS, 2' DIA.

### **WASHOUT BASIN**

Description: This item shall consist of constructing and maintaining a washout basin for concrete trucks and other construction vehicles. The washout basin will be as detailed on the plans.

Basis of Payment: This work shall be paid for at the contract unit price per lump sum for WASHOUT BASIN, which prices shall include general maintenance and removal of all construction debris and all material, labor, tools, equipment, disposal of surplus material, and incidentals necessary to complete this item of work.

### **POROUS GRANULAR EMBANKMENT, SUBGRADE**

Effective: September 30, 1985

Revised: August 1, 2008

This work consists of furnishing, placing, and compacting porous granular material to the lines and grades shown on the plans or as directed by the Engineer in accordance with applicable portions of Section 207 of the Standard Specifications. The material shall be used as a bridging layer over soft, pumpy, loose soil and for placing under water and shall conform with Article 1004.05 of the Standard Specifications except the gradation shall be as follows:

#### 1. Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete

| <u>Sieve Size</u> | <u>Percent Passing</u> |
|-------------------|------------------------|
| *6 in. (150 mm)   | 97 ± 3                 |
| *4 in. (100 mm)   | 90 ± 10                |
| 2 in. (50 mm)     | 45 ± 25                |
| No. 200 (75 µm)   | 5 ± 5                  |

2. Gravel\*\* and Crushed Gravel

| <u>Sieve Size</u> | <u>Percent Passing</u> |
|-------------------|------------------------|
| *6 in. (150 mm)   | 97 ± 3                 |
| *4 in. (100 mm)   | 90 ± 10                |
| 2 in. (50 mm)     | 55 ± 25                |
| No. 4 (4.75 mm)   | 30 ± 20                |
| No. 200 (75 µm)   | 5 ± 5                  |

\* For undercut greater than 18 inches (450 mm) the percent passing the 6 inch (150 mm) sieve may be 90 ± 10 and the 4 inch (100 mm) sieve requirements eliminated.

\*\* Not to be used in 30 or 40 year extended life concrete pavement or extended life bituminous concrete pavement (full depth).

The porous granular material shall be placed in one lift when the total thickness to be placed is 2 feet (600 mm) or less or as directed by the Engineer. Each lift of the porous granular material shall be rolled with a vibratory roller meeting the requirements of Article 1101.01(g) of the Standard Specifications to obtain the desired keying or interlock and compaction. The Engineer shall verify that adequate keying has been obtained.

A 3 inch (75 mm) nominal thickness top lift of capping aggregate having a gradation of CA 6 will be required when Aggregate Subgrade is not specified in the contract and Porous Granular Embankment, Subgrade will be used under the pavement and shoulders. Capping aggregate will not be required when embankment meeting the requirements of Section 207 of the Standard Specifications or granular subbase is placed on top of the porous granular material.

Construction equipment not necessary for the completion of the replacement material will not be allowed on the undercut areas until completion of the recommended thickness of the porous granular embankment subgrade.

Full depth subgrade undercut should occur at limits determined by the Engineer. A transition slope to the full depth of undercut shall be made outside of the undercut limits at a taper of 1 foot (300 mm) longitudinal per 1 inch (25 mm) depth below the proposed subgrade or bottom of the proposed aggregate subgrade when included in the contract.

Method of Measurement. This work will be measured for payment in accordance with Article 207.04 of the Standard Specifications. When specified on the contract, the theoretical elevation of the bottom of the aggregate subgrade shall be used to determine the upper limit of Porous Granular Embankment, Subgrade. The volume will be computed by the method of average end areas.

Basis of Payment. This work shall be paid for at the contract unit price per cubic yard (cubic meter) for POROUS GRANULAR EMBANKMENT, SUBGRADE.

The Porous Granular Embankment, Subgrade shall be used as field conditions warrant at the time of construction. No adjustment in unit price will be allowed for an increase or decrease in quantities from the estimated quantities shown on the plans.

**AGGREGATE SUBGRADE 12"**

Effective: May 1, 1990

Revised: August 1, 2008

This work shall be done in accordance with the applicable portions of Section 207 of the Standard Specifications. The material shall conform to Article 1004.05 of the Standard Specifications except as follows:

1. Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete will be permitted. Steel slag and other expansive materials as determined through testing by the Department will not be permitted.

| <u>Sieve Size</u> | <u>Percent Passing</u> |
|-------------------|------------------------|
| 6 in. (150 mm)    | 97 ± 3                 |
| 4 in. (100 mm)    | 90 ± 10                |
| 2 in. (50 mm)     | 45 ± 25                |
| No. 200 (75 µm)   | 5 ± 5                  |

2. Gravel\* and Crushed Gravel

| <u>Sieve Size</u> | <u>Percent Passing</u> |
|-------------------|------------------------|
| 6 in. (150 mm)    | 97 ± 3                 |
| 4 in. (100 mm)    | 90 ± 10                |
| 2 in. (50 mm)     | 55 ± 25                |
| No. 4 (4.75 mm)   | 30 ± 20                |
| No. 200 (75 µm)   | 5 ± 5                  |

3. Crushed Concrete with Bituminous Materials\*\*

| <u>Sieve Size</u> | <u>Percent Passing</u> |
|-------------------|------------------------|
| 6 in. (150 mm)    | 97 ± 3                 |
| 4 in. (100 mm)    | 90 ± 10                |
| 2 in. (50 mm)     | 45 ± 25                |
| No. 4 (4.75 mm)   | 20 ± 20                |
| No. 200 (75 µm)   | 5 ± 5                  |

\* Not to be used in 30 or 40 year extended life concrete pavement or extended life bituminous concrete pavement (full depth).

\*\* The Bituminous material shall be separated and mechanically blended with the crushed concrete so that the bituminous material does not exceed 40% of the final products. The top size of the bituminous material in the final product shall be less than 4 inches (100 mm) and shall not contain more than 10.0% steel slag RAP or any material that is considered expansive by the Department.

The Aggregate subgrade shall be placed in two lifts consisting of a 9 inch (225 mm) and variable nominal thickness lower lift and a 3 inch (75 mm) nominal thickness top lift of capping aggregate having a gradation of CA 6. The CA 6 may be blended as follows. The bituminous materials shall be separated and mechanically blended with interlocking feeders with crushed concrete or natural aggregate, in a manner that the bituminous material does not exceed 40% of the final product. This process shall be approved by the engineer prior to start of production.



The top side of the bituminous material in the final products shall be less than 1 ½ inches (37.5 mm) and shall not contain any material considered expansive by the department. Reclaimed Asphalt Pavement (RAP) (having a maximum of 10% steel slag RAP) meeting the requirements of Section 1031 and having 100% passing the 1 ½ inches (37.5 mm) sieve and well graded down through fines may also be used as capping aggregate. IDOT testing of the RAP material will be used in determining the percent of steel slag RAP or Expansive Material. When the contract specifies that an aggregate subbase is to be placed on the Aggregate Subgrade, the 3 inches (75 mm) of capping aggregate will be eliminated. A vibratory roller meeting the requirements of Article 1101.01(g) of the Standard Specifications shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

When a recommended remedial treatment for unstable subgrades is included in the contract, the lower lift of Aggregate Subgrade may be placed simultaneously with the material for Porous Granular Embankment, Subgrade when the total thickness to be placed is 2 feet (600 mm) or less.

Method of Measurement.

Contract Quantities. Contract quantities shall be in accordance with Article 202.07 of the Standard Specifications.

Measured Quantities. Aggregate subgrade will be measured in place and the area computed in square yards (square meters).

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE 12".

**TRAFFIC CONTROL PLAN**

Effective: September 30, 1985

Revised: January 1, 2007

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the District One Bureau of Traffic at least 72 hours in advance of beginning work.

Standards:

701001 701006 701011 701201 701301 701306 701311  
701321 701326 701901 704001

Details:

Maintenance of Traffic - Staging Typical Sections  
Maintenance of Traffic - Staging Plan Sheets  
Max Width Sign Design  
To Activate Signal Sign Design  
One Way Traffic Follow Traffic Flow Sign Design  
TC-10 Traffic Control and protection For Side Roads, Intersections and Driveways  
TC-11 Raised Reflective Pavement Markers (Snow Plow Resistant)  
TC-13 District One Typical Pavement Markings  
TC-16 Pavement Marking Letters and Symbols For Traffic Staging  
TC-22 Arterial Road Information Sign

Special Provisions:

Maintenance of Roadways  
Temporary Information Signing  
Personal Protective Equipment  
Reflective Sheeting on Channelizing Devices  
Impact Attenuator, Temporary  
Type III Temporary Tape for Wet Conditions  
Traffic Control for Narrow Travel Lanes  
Flagger at Side Roads and Entrances (BDE)  
Post Mounting of Signs (BDE)  
Truck Mounted/Trailer Mounted Attenuators (BDE)  
Work Zone Speed Limit:

The speed limit during traffic staging shall be posted with 40 mph "Advisory" speed signs.

Signs:

No bracing shall be allowed on post-mounted signs.

"BUMP" (W8-1(O)48) 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.

Install a "TO ACTIVATE SIGNAL" sign for the traffic signal detection zone. The detail of this sign is included in the plans.

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

Flaggers:

Flaggers shall comply with all requirements contained in the Department's "Flagger Handbook" with the following exception: The ANSI Class 2 vest will not be supplied by the Department.

Pavement Marking:

Temporary pavement markings shall not be included in the cost of the standard rather it shall be paid for separately at the contract unit prices of specified temporary pavement marking items.

All short term pavement markings on a milled surface shall be paint.

Highway Standards Application:

701001 This standard should be used for, grading, seeding, utility work, fencing and other miscellaneous work which is performed more than 15' from the edge of the traffic lane. Work performed under this traffic control application will not be paid for separately, but shall be INCLUDED in the cost of the related work items.

Anticipated major operations for application of this standard:

- Landscaping and punch list work.

701006 This standard should be used for, grading, seeding, and other miscellaneous work which is performed within 15', but not closer than 2', to the edge of the traffic lane. Work performed under this traffic control application will not be paid for separately, but shall be INCLUDED in the cost of the related work items.

Anticipated major operations for application of this standard:

- Landscaping and punch list work.
- Guardrail installation

701011 This standard should be used for, grading, seeding, and other miscellaneous work which is performed within 15', but not closer than 2', to the edge of the traffic lane. Work performed under this traffic control application will not be paid for separately, but shall be INCLUDED in the cost of the related work items.

Anticipated major operations for application of this standard:

- Constructing aggregate wedge shoulder adjacent to pavement shoulder and temporary pavement in Stage 1A.

701201 This standard will apply when short time work operations are being performed. Typical operations are bituminous density testing, application of temporary pavement marking, marking and saw cutting edge of pavements, and miscellaneous survey operations. Work performed under this traffic control application will be paid for separately under TRAFFIC CONTROL AND PROTECTION, STANDARD 701201, Lump Sum. The standard will only paid for once for the entire project regardless of how many times the set ups are required to complete the work.

Anticipated major operations for application of this standard:

- Saw cutting pavement edge.
- Surveying operations.
- Paved ditch cleaning.

701301 This standard will apply when short time work operations are being performed. Typical operations are bituminous density testing, application of temporary pavement marking, marking and saw cutting edge of pavements, and miscellaneous survey operations. Operations performed under this traffic control application will not be paid for separately, but shall be INCLUDED in the cost of the related work items.

Anticipated major operations for application of this standard:

- Pavement marking removal.
- Surveying operations.
- Paved ditch cleaning.

701306 This standard is appropriate for use during construction for bituminous surface course milling and paving operations. Work performed under this traffic control application will be paid for separately under TRAFFIC CONTROL AND PROTECTION, STANDARD 701306, Lump Sum. The standard will only paid for once for the entire project regardless of how many times the set ups are required to complete the work.

Anticipated major operations for application of this standard:

- HMA surface milling.
- HMA surface course paving.
- Aggregate shoulder.
- Permanent signing and delineators.

701311 This standard is used where any work activity requires a continuous moving operation where the speed is greater than 3 mph. Work performed under this traffic control application will not be paid for separately, but shall be INCLUDED in the cost of the related work items.

Anticipated major operations for application of this standard:

- Permanent pavement marking operations.

701321 The general provisions of this standard have been used in the development of the Stage 1 and Stage 2 Maintenance of Traffic operation detail in the plans for the construction of the bridge and roadway improvements. Only one lane will be open at a time and the staging plans will utilize temporary bridge traffic signals. Traffic control devices shall set up as applicable as shown in the plans. Work performed under this traffic control application will paid for once for both stages (Stage 1 and Stage 2) under TRAFFIC CONTROL AND PROTECTION, STANDARD 701321, Each. The standard will only paid for once for the entire project.

Anticipated major operations for application of this standard:

- Major bridge and roadway Improvements constructed in Stage 1 and 2.

701326 This standard is appropriate for use at the end of construction day during the pavement widening stage. All lanes of traffic shall remain open. Traffic control devices shall set up as applicable as shown on Highway Standard 701326. Work performed under this traffic control application will paid for separately under TRAFFIC CONTROL AND PROTECTION, STANDARD 701326, Lump Sum.

The standard will only paid for once for the entire project regardless of how many times the set ups are required to complete the work.

Anticipated major operations for application of this standard:

- Temporary pavement and shoulder construction in Stage 1A adjacent to IL 173.

701901 This standard includes general traffic control devices to be used throughout the project. These traffic control devices will not be paid for separately, but shall be INCLUDED in the cost of the related work items

Anticipated major operations for application of this standard:

- All construction staging plans and applicable standards.

Keeping Entrances Open to Traffic:

Access to field and private entrances designated on the plans to remain open shall remain open at all times. On properties that have more than one access, one entrance may be temporarily closed. However, vehicular access must remain open to traffic for the opposite entrance. When it is necessary to close an entrance, the contractor shall coordinate with the Engineer and the property owner forty-eight (48) hours in advance of the work.

Other Devices.

Temporary Rumble Strips: When temporary rumble strips are specified and rumble strips such as self-adhesive rumble strips manufactured by Advance Traffic Markings are used that do not meet the thickness requirement shown on standard 701901, multiple layers of the product shall be used to meet standard 701901.

This work shall be included in the contract unit price per each for TEMPORARY RUMBLE STRIPS.

Temporary Bridge Signals: The Contractor will be required to have someone available at all times to receive phone calls during non-work hours and who is able to reach the job site within one hour of being called. This person will be able to repair the temporary signals or will be able to have flaggers on site within another hour to flag traffic until the signals are again in operation. Failure to have a person on site within an hour after the initial call out will result in the Contractor being charged liquidated damages by the Department. Failure to have traffic restored either with repaired signals or with flaggers within two hours after the initial call out will result in the Contractor being charged liquidated damages by the Department. The Contractor may use a traffic control subcontractor for the first call, however this does not relieve the prime Contractor from having a person on call.

Traffic Signal Work: No traffic signal work shall begin until all of the traffic signal hardware is on the job site. The existing traffic signal system shall remain in operation during the modernization work. The work shall be scheduled so that a minimum of two signal indications for each phase remains in operation. No signal indication shall be absent for more than seven calendar days.

Maintenance of Traffic:

When the roadway is not closed and/or Standard 701321 are not in effect, the mainline shall be kept open to one-way traffic at all times during working hours and two-way traffic during non-working hours.

The Contractor shall be required to notify the McHenry County Highway Department, the corresponding Township Commissioner, emergency response agencies (i.e.: fire, ambulance, police), school bus companies and the Department of Transportation (Bureau of Project Implementation) regarding any changes in traffic control.

Basis of Payment

The basis of payment for traffic control and protection will be as follows:

Work performed under this traffic control application Standard 701201 will be paid for separately under TRAFFIC CONTROL AND PROTECTION, STANDARD 701201, Lump Sum. The standard will only paid for once for the entire project regardless of how many times the set ups are required to complete the work

Work performed under this traffic control application Standard 701306 will be paid for separately under TRAFFIC CONTROL AND PROTECTION, STANDARD 701306, Lump Sum. The standard will only paid for once for the entire project regardless of how many times the set ups are required to complete the work

Work performed under this traffic control application Standard 701326 will be paid for separately under TRAFFIC CONTROL AND PROTECTION, STANDARD 701326, Lump Sum. The standard will only paid for once for the entire project regardless of how many times the set ups are required to complete the work.

Work performed under this traffic control application Standard 701321 will be paid for separately under TRAFFIC CONTROL AND PROTECTION, STANDARD 701321, Each. The standard will paid for only once for the entire project.

SHORT-TERM PAVEMENT MARKING, TEMPORARY PAVEMENT MARKING of the size specified will be paid for separately.

The price for these items shall be payment in full for all labor, materials, transportation, signs, drums and barricades and incidental work necessary to furnish, install, maintain and remove all traffic control as shown in the plans and as required in these Special Provisions.

**COARSE AGGREGATE FOR HOT-MIX ASPHALT (HMA) (D-1)**

Effective: March 16, 2009

Revise Article 1004.03 of the Standard Specifications to read:

**1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA).** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate for HMA shall be according to the following table.

| Use                          | Mixture                                  | Aggregates Allowed  |
|------------------------------|--|---|
| Class A                      | Seal or Cover                            | Gravel<br>Crushed Gravel<br>Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag<br>Crushed Concrete   |
| HMA<br>All Other             | Stabilized Subbase or Shoulders          | Gravel<br>Crushed Gravel<br>Crushed Stone<br>Crushed Sandstone<br>Crushed Slag<br>Crushed Concrete<br><br>The coarse aggregate for stabilized subbase, if approved by the Engineer, may be produced by blending aggregates according to Article 1004.04(a).   |
| HMA<br>High ESAL<br>Low ESAL | IL-25.0, IL-19.0, or IL-19.0L            | Crushed Gravel<br>Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)   |
| HMA<br>High ESAL<br>Low ESAL | C Surface<br>IL-12.5, IL-9.5, or IL-9.5L | Gravel (only when used in IL-9.5L)<br>Crushed Gravel<br>Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag (except when used as leveling binder)   |
| HMA<br>High ESAL             | D Surface<br>IL-12.5 or IL-9.5           | Crushed Gravel<br>Crushed Stone (other than Limestone)<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag (except when used as leveling binder)<br><br>Limestone may be used in Mixture D if blended by volume in the following coarse aggregate percentages:<br>Up to 25% Limestone with at least 75% Dolomite.<br>Up to 50% Limestone with at least 50% any aggregate listed for Mixture D except Dolomite.<br>Up to 75% Limestone with at least 25% Crushed Slag (ACBF) or Crushed Sandstone. |

| Use                 | Mixture                           | Aggregates Allowed  |
|---------------------|-----------------------------------|---|
| HMA<br>High<br>ESAL | E Surface<br>IL-12.5 or<br>IL-9.5 | <p>Crushed Gravel<br/>           Crushed Stone (other than Limestone and Dolomite)<br/>           Crushed Sandstone</p> <p>No Limestone.</p> <p>Dolomite may be used in Mixture E if blended by volume in the following coarse aggregate percentages:<br/>           Up to 75% Dolomite with at least 25% Crushed Sandstone, Crushed Slag (ACBF), or Crushed Steel Slag. When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 25% to a maximum of 75% of either Slag by volume.<br/>           Up to 50% Dolomite with at least 50% of any aggregate listed for Mixture E.</p> <p>If required to meet design criteria, Crushed Gravel or Crushed Stone (other than Limestone or Dolomite) may be blended by volume in the following coarse aggregate percentages:<br/>           Up to 75% Crushed Gravel or Crushed Stone (other than Limestone or Dolomite) with at least 25% Crushed Sandstone, Crushed Slag (ACBF), or Crushed Steel Slag. When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 25% to a maximum of 50% of either Slag by volume.</p> |
| HMA<br>High<br>ESAL | F Surface<br>IL-12.5 or<br>IL-9.5 | <p>Crushed Sandstone</p> <p>No Limestone.</p> <p>Crushed Gravel, Crushed Concrete, or Crushed Dolomite may be used in Mixture F if blended by volume in the following coarse aggregate percentages:<br/>           Up to 50% Crushed Gravel, Crushed Concrete or Crushed Dolomite with at least 50% Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or any Other Crushed Stone (to include Granite, Diabase, Rhyolite or Quartzite). When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 50% to a maximum of 75% of either Slag by volume.</p>   |

(b) Quality. For surface courses and binder courses when used as surface course, the coarse aggregate shall be Class B quality or better. For Class A (seal or cover coat), other binder courses, and surface course IL-9.5L (Low ESAL), the coarse aggregate shall be Class C quality or better. For All Other courses, the coarse aggregate shall be Class D quality or better.

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



| Use               | Size/Application                        | Gradation No.  |
|-------------------|---|--|
| Class A-1, 2, & 3 | 3/8 in. (10 mm) Seal                    | CA 16  |
| Class A-1         | 1/2 in. (13 mm) Seal                    | CA 15  |
| Class A-2 & 3     | Cover                                   | CA 14  |
| HMA High ESAL     | IL-25.0<br>IL-19.0<br>IL-12.5<br>IL-9.5 | CA 7 <sup>1/</sup> or CA 8 <sup>1/</sup><br>CA 11 <sup>1/</sup><br>CA 16 and/or CA 13<br>CA 16 |
| HMA Low ESAL      | IL-19.0L<br>IL-9.5L                     | CA 11 <sup>1/</sup><br>CA 16   |
| HMA All Other     | Stabilized Subbase<br>or Shoulders      | CA 6 <sup>2/</sup> , CA 10, or CA 12   |

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

2/ CA 6 will not be permitted in the top lift of shoulders.

### EPOXY COATING ON REINFORCEMENT (DISTRICT ONE)

Effective: January 1, 2007

Revised: July 20, 2010

For work outside the limits of bridge approach pavement, all references in the Highway Standards and Standard Specifications for reinforcement, dowel bars and tie bars in pavement, shoulders, curb, gutter, combination curb and gutter and median, and chair supports for CRC pavement, shall be epoxy coated, unless noted on the plan.

### FINE AGGREGATE FOR HOT- MIX ASPHALT (HMA) (D-1)

Effective: May 1, 2007

Revised: January 15, 2010

Add the following to the gradation tables of Article 1003.01(c) of the Standard Specifications:

| FINE AGGREGATE GRADATIONS |                                |       |       |        |         |
|---------------------------|--------------------------------|-------|-------|--------|---------|
| Grad No.                  | Sieve Size and Percent Passing |       |       |        |         |
|                           | 3/8                            | No. 4 | No. 8 | No. 16 | No. 200 |
| FA 22                     | 100                            | 6/    | 6/    | 8±8    | 2±2     |

| FINE AGGREGATE GRADATIONS (metric) |                                |         |         |         |       |
|------------------------------------|--------------------------------|---------|---------|---------|-------|
| Grad No.                           | Sieve Size and Percent Passing |         |         |         |       |
|                                    | 9.5 mm                         | 4.75 mm | 2.36 mm | 1.16 mm | 75 µm |
| FA 22                              | 100                            | 6/      | 6/      | 8±8     | 2±2   |

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

Revise Article 1003.03(a) of the Standard Specifications to read:

- “ (a) Description. Fine aggregate for HMA shall consist of sand, stone sand, chats, slag sand, or steel slag sand. For gradation FA 22, uncrushed material will not be permitted.”

Revise Article 1003.03 (c) of the Standard Specifications to read:

- “ (c) Gradation. The fine aggregate gradation for all HMA shall be FA1, FA 2, FA 20, FA 21 or FA 22. When Reclaimed Asphalt Pavement (RAP) is incorporated in the HMA design, the use of FA 21 Gradation will not be permitted.

Gradation FA 1, FA 2, or FA 3 shall be used when required for prime coat aggregate application for HMA.”

### **TEMPERATURE CONTROL FOR CONCRETE PLACEMENT (DISTRICT ONE)**

Effective: May 1, 2007

Delete the second and third sentences of the second paragraph of Article 1020.14(a) of the Standard Specifications.

### **TEMPORARY PAVEMENT**

Effective: March 1, 2003

Revised: April 10, 2008

Description. This work shall consist of constructing a temporary pavement at the locations shown on the plans or as directed by the engineer.

The contractor shall use either Portland cement concrete according to Sections 353 and 354 of the Standard Specifications or HMA according to Sections 355, 356, 406 of the Standard Specifications, and other applicable HMA special provisions as contained herein. The HMA mixtures to be used shall be specified in the plans. The thickness of the Temporary Pavement shall be as described in the plans. The contractor shall have the option of constructing either material type if both Portland cement concrete and HMA are shown in the plans.

Articles 355.08 and 406.11 of the Standard Specifications shall not apply.

The removal of the Temporary Pavement, if required, shall conform to Section 440 of the Standard Specification.

Method of Measurement. Temporary pavement will be measured in place and the area computed in square yards (square meters).

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for TEMPORARY PAVEMENT and TEMPORARY PAVEMENT (INTERSTATE).

Removal of temporary pavement will be paid for at the contract unit price per square yard (square meter) for PAVEMENT REMOVAL.

## **TEMPORARY LIGHTING FOR SINGLE LANE STAGING**

Effective: December 1, 2008

### Description:

This item shall consist of furnishing, installing, operating, maintaining and removing all the components necessary for the complete and safe Temporary Lighting in construction zone where traffic is staged in a single lane.

### Materials:

The materials used for the installation of the Temporary Lighting for Single Lane Staging can be new or used and shall remain the property of the Contractor after the removal.

The material shall be according to the Standard Specifications, the special provisions or as directed by the Engineer. The contractor shall submit to the Engineer, prior to installation, suitable and complete information for the proposed material documenting conformance to requirements herein.

The Temporary Lighting for Single Lane Staging plan sheets show typical materials to be installed. The Contractor shall provide the materials shown in the plans and any additional materials required to install Temporary Lighting for Single Lane Staging. All materials required for the complete and safe installation of the Temporary Lighting for Single Lane Staging shall be included as part of this pay item.

Wood poles, luminaires, mast arms, electric service box, conduit, wire, ground rods and any additional materials required to install a complete Temporary Lighting for Single Lane Staging shall be included as part of this item as indicated and as required.

The electric service installation, the electric utility service connection, electric utility charges, and any associated labor or materials are included in the lump sum payment and will not be paid separately.

The maintenance of the Temporary Lighting for Single Lane Staging is part of this item and will not be paid separately.

The equipment used for the Temporary Lighting shall be UL listed or as otherwise approved by the Engineer.

### Installation:

The Temporary Lighting for Single Lane Staging layout as shown in the contract plans shows spacing, setback, and placement of the equipment required for a typical installation. The layout of the temporary equipment will vary based on field conditions, staging, utility impacts, and electric service location as coordinated with the electric utility. The contractor shall submit a plan or sketch indicating the setting of poles, traffic signals, and the combined service including dimensions between poles, setback, and pole locations by stationing or dimensioning from some existing fixed objects as well as any revisions required for staging. This submittal must be approved by the engineer before any poles are placed.

The contractor is responsible for advance coordination with the electric utility company required to attain electric service for the Temporary Lighting for Single Lane Staging. The contractor shall contact the electric utility company prior to the pre-construction meeting and document the status of the coordination at the meeting.

Contractor shall coordinate his work fully with the ComEd both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement. **Please contact ComEd, New Business Center Call Center, at 866 NEW ELECTRIC (1-866-639-3532) to begin the service connection process. The Call Center Representatives will create a work order for the service connection. The representative will ask the requestor for information specific to the request. The representative will assign the request based upon the location of project.**

The Contractor should make particular note of the need for the earliest attention to arrangements with ComEd for service. In the event of delay by ComEd, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for electric service within 30 days of execution.

Electrical service shall be 240/120V 1 Phase 3 Wire. Where 240V service is not available, the contractor may submit a proposal for 120V service. Where 120 volt source is indicated, service drop cable shall be installed accordingly and lighting main breaker and all other service appurtenances shall be appropriately rated and included regardless of the service voltage applied to the installation.

The electric service shall be metered or as otherwise approved by the Engineer. Initial electric service costs shall be paid by the Contractor and are included in the lump sum pay item for the Temporary Lighting for Single Lane Staging. The contractor shall pay the monthly energy costs as part of this lump sum item. The contractor shall be responsible for discontinuing electric service when so approved by the Engineer.

The disconnect box shall be NEMA 4X stainless steel, nominally 12" W x 16" H x 8" D with piano hinged door, steel back panel, fast acting stainless steel enclosure clamps, padlock provisions and door stop kit (Hoffman catalog #A-16H1208SS6LP/A-16P12/A-DSTOPK/C-PMK12, or approved equal).

Circuit Breakers shall be thermal magnetic bolt-on type with a minimum interrupt capacity of 25,000 symmetrical amperes at 240 volts. Breakers shall be lockable in the off position for lockout/tag-out compliance.

Bus bars, connectors, and lugs shall be copper, insulated and isolated, and configured to prevent shorted conditions from tightening terminations. Lugs and connectors shall be rated for 75°C. Overall bus sections shall be configured behind an insulating barrier shield which is removable for access to connections. The circuit breakers and bus may be part of an approved panelboard assembly.

Disconnect surge protector shall be suitable for 240/120 volt single phase 60Hz, AC electrical service. Protector shall have a surge energy capability of 2160 joules or better at 8/20 microseconds, rate -40 to 60°C., with LED operating indicators and shall be UL listed per UL 1449. The surge protector shall be a Cutler Hammer CMOV230L065XST or approved equal.

Steel strut channel, conduit, wire, and ground rods to complete the installation of the disconnect box shall be included as part of this item, as required and as indicated.

Combination ground and neutral bar shall be configured with separate ground and neutral sections and spare terminals as indicated. The heads of grounding screws shall be painted green. The heads of neutral screws shall be painted white.

A plastic laminated layout and circuit diagram shall be affixed to the interior side of the enclosure door.

A 2-color engraved plastic nameplate, attached with screws and engraved as indicated, shall be provided for each main breaker.

The exact mounting height for the Electric Service Disconnect shall be field determined and marked by the Engineer.

The contractor is responsible for contacting IDOT Electrical Maintenance Contractor for locates of any buried State electrical facilities. The contractor shall contact JULIE for locates of any other utilities in the construction zone.

When the temporary traffic signal and lighting installation are to share any common elements such as wood poles, electrical service, disconnect box, cable, etc., the contractor shall coordinate the temporary signals and the lighting installation.

The contractor shall install the equipment in accordance with the Standard Specifications for Road and Bridge Construction, the special provisions or as directed by the Engineer. The Temporary Lighting and any other associated provisional installation, including Traffic Signals, shall be inspected and approved by the Engineer prior to placing in operation.

When the contract work is complete and all the lanes are open to the traffic, the contractor shall remove and salvage all the temporary lighting equipment within 30 days.

The contractor is responsible for restoring, including any grading or seeding, of all areas disturbed under this contract to the satisfaction of the Engineer.

Method Of Measurement:

Temporary Lighting for Single Lane Staging installed complete as specified and as indicated on the plans, shall be counted as lump sum for payment.

The contractor shall receive and accept the compensation as herein described; 50 percent of the total cost of this pay item shall be paid after the installation and approval by the Engineer of the complete Temporary Lighting, and the remaining 50 percent shall be paid after the removal once the project is completed.

All equipment and work provided by the Contractor including coordination, revisions, relocations, installation, maintenance, removal and restoration required to provide complete and operational Temporary Lighting for Single Lane Staging are included in the lump sum payment. The electric service installation, the electric utility service connection, and any associated material, labor, or charges to the utility company are included in the lump sum payment and will not be paid separately.

No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

Basis Of Payment:

This work will be paid for at the contract lump sum price for TEMPORARY LIGHTING FOR SINGLE LANE STAGING.

## **EMBANKMENT I**

Effective: January 1, 2007

Description. This work shall be according to Section 205 of the Standard Specifications except for the following.

Material. All material shall be approved by the District Geotechnical Engineer. The proposed material must meet the following requirements.

- a) The laboratory Standard Dry Density shall be a minimum of 1450 kg/cu m (90lb/cu ft) when determined in accordance with AASHTO T 99.
- b) The organic content shall be less than ten percent determined in accordance with AASHTO designation T 194 (Wet Combustion).
- c) Soils which demonstrate the following properties should be restricted to the interior of the embankment and shall be covered on both the sides and top of the embankment by a minimum of 900 mm (3 ft) of soil not considered detrimental in terms of erosion potential or excess volume change.
  - 1) A grain size distribution with less than 35 percent passing the number 75 um (#200) sieve.
  - 2) A plasticity index (PI) of less than 11
  - 3) A liquid limit (LL) in excess of 45
- d) Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.

## **CONSTRUCTION REQUIREMENTS**

Samples. Embankment material shall be sampled, tested, and approved before use. The contractor shall identify embankment sources, and provide equipment as the Engineer requires, for the collection of samples from those sources. Samples will be furnished to the Geotechnical Engineer a minimum of three weeks prior to use in order that laboratory tests for approval and compaction can be performed. Embankment material placement cannot begin until tests are completed and approval given.

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 150 mm (6 in.) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlaying lifts. The disk must have a minimum of 600 mm (24 in.) diameter blade.

Compaction. Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart.

When tested for density in place each lift shall have a maximum moisture content as follows.

- a) A maximum of 110 percent of the optimum moisture for all forms of clay soils.
- b) A maximum of 105 percent of the optimum moisture for all forms of clay loam soils.

### **RECLAIMED ASPHALT SHINGLES (RAS) (BMPR)**

Effective: March 1, 2011

**Description.** Reclaimed asphalt shingles (RAS) meeting Type I or Type 2 requirements will be permitted in all HMA mixtures as specified herein for overlay applications only. RAS shall not be used in full depth HMA pavement. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable materials, as defined in Bureau of Materials and Physical Research Policy (BMPR) Memorandum *Reclaimed Asphalt Shingle (RAS) Sources*, by weight of RAS. All RAS used shall come from a BMPR approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. sieve and 93 percent passing the #4 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.

**Definitions.** RAS shall meet either Type I or Type 2 requirements as specified herein.

- (a) Type I. Type I RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
- (b) 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).

**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 approved by the Engineer, mechanically blending manufactured sand (FM20 or FM 22) 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 3 years.

**Testing.** RAS shall be sampled and tested during stockpiling.

For testing during stockpiling, washed extraction, and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 250 tons (225 metric tons) thereafter. A minimum of five tests are required for stockpiles less than 1000 tons (900 metric tons). Once a  $\leq 1000$  ton, five-test stockpile has been established it shall be sealed. Additional incoming RAS shall be stockpiled in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

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

The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

Evaluation of 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     |
|------------------------|---------|
| No. 8 (2.36 mm)        | ± 5 %   |
| No. 16 (1.18 mm)       | ± 5 %   |
| No. 30 (600 μm)        | ± 4%    |
| No. 200 (75 μm)        | ± 2.0 % |
| Asphalt Binder Content | ± 1.5 % |

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt binder content, or if the percent unacceptable materials exceeds 0.5 percent by weight of material retained on the #4 sieve, the RAS shall not be used in Department projects. All test data and acceptance ranges shall be sent to the District for evaluation.

**Use of RAS in HMA.** Type 1 or Type 2 RAS may be used alone or in conjunction with Reclaimed Asphalt Pavement (RAP) in all HMA mixtures up to a maximum of 5.0 percent by weight of total mix.

Level 1 asphalt binder replacement. The maximum Level 1 RAS or RAS/RAP blend usage will be dictated by the Level 1 - Maximum Asphalt Binder Replacement (MABR) table listed below.

| HMA Mixtures <sup>1/, 2/</sup> | Level 1 - Maximum Asphalt Binder Replacement |         |                                    |
|--------------------------------|--|---------|------------------------------------|
|                                | Binder/Leveling Binder                       | Surface | Polymer Modified <sup>3/, 4/</sup> |
| Ndesign 30                     | 35   | 35      | 10                                 |
| 50                             | 30   | 25      | 10                                 |
| 70                             | 25   | 20      | 10                                 |
| 90                             | 20   | 15      | 10                                 |
| 105                            | 10   | 10      | 10                                 |

- 1/ For HMA shoulder and stabilized subbase (HMA "All Other") N-30, the maximum binder replacement shall be 50 percent.
- 2/ When the asphalt binder replacement exceeds 20 percent for all mixtures, except for SMA and IL-4.75, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 25 percent asphalt binder replacement would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).
- 3/ For SMA the maximum asphalt binder replacement shall be 20 percent. When the binder replacement exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).
- 4/ For IL-4.75 mix the maximum asphalt binder replacement shall not exceed 20 percent.



When the asphalt binder replacement exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

Level 2 asphalt binder replacement. The maximum Level 2 RAS or RAS/RAP blend usage will be dictated by the Level 2 - MABR table listed below.

| HMA Mixtures <sup>1/, 2/</sup> | Level 2 - Maximum Asphalt Binder Replacement |         |                                    |
|--------------------------------|--|---------|------------------------------------|
| Ndesign                        | Binder/Leveling Binder                       | Surface | Polymer Modified <sup>3/, 4/</sup> |
| 30                             | 40   | 40      | 10                                 |
| 50                             | 40   | 30      | 10                                 |
| 70                             | 30   | 20      | 10                                 |
| 90                             | 30   | 20      | 10                                 |
| 105                            | 30   | 15      | 10                                 |

- 1/ For HMA shoulder and stabilized subbase (HMA "All Other") N-30, the maximum binder replacement shall be 50 percent.
- 2/ When the asphalt binder replacement exceeds 20 percent for all mixtures, except for SMA and IL-4.75, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 25 percent asphalt binder replacement would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).
- 3/ For SMA the maximum asphalt binder replacement shall be 20 percent. When the binder replacement exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).
- 4/ For IL-4.75 mix the maximum asphalt binder replacement shall not exceed 30 percent. When the asphalt binder replacement exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

**HMA Mix Designs.** RAS and RAS/RAP designs shall be submitted for volumetric verification. Type 1 and Type 2 RAS are not interchangeable in a mix design. A RAS stone bulk specific gravity (Gsb) of 2.500 shall be used for mix design purposes.

RAS and RAS/RAP mix designs with asphalt binder replacements exceeding the Level 1 – MABR limits specified herein, shall be tested prior to submittal for verification, according to Illinois Modified AASHTO T324 (Hamburg Wheel). RAS and RAS/RAP mixtures exceeding the Level 1 MABR limits shall meet the following requirements:

| Asphalt Binder Grade | # Repetitions | Max Rut Depth (mm) |
|----------------------|---------------|--------------------|
| PG76-XX              | 20,000        | 12.5               |
| PG70-XX              | 15,000        | 12.5               |
| PG64-XX              | 10,000        | 12.5               |
| PG58-XX              | 10,000        | 12.5               |

**HMA Production.** Mixture production, where the RAS and RAS/RAP asphalt binder replacement exceeds the Level 1 MABR, shall be sampled within the first 500 tons on the first day of production with a split reserved for the Department.

The mix sample shall be tested according to Illinois Modified AASHTO T324 and shall meet the requirements specified herein. RAS and RAS/RAP mix production shall not exceed 1,500 tons or one days production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the RAS and RAS/RAP plant produced mixture conformance is demonstrated prior to start of mix production for a State contract.

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  $\pm 0.5$  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 mixture production is halted when RAS flow is interrupted.

When producing HMA containing RAS, a positive dust control system shall be utilized.

HMA plants utilizing RAS shall be capable of automatically recording and printing the following information.

(a) Dryer Drum Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (4) Accumulated dry weight of RAS in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (5) Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- (6) Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- (7) Residual asphalt binder in the RAS material as a percent of the total mix to the nearest 0.1 percent.
- (8) Aggregate and RAS moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS are printed in wet condition.)

(b) Batch Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- (4) Mineral filler weight to the nearest pound (kilogram).

- (5) RAS weight to the nearest pound (kilogram).
- (6) Virgin asphalt binder weight to the nearest pound (kilogram).
- (7) Residual asphalt binder in the 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.

## **RECLAIMED ASPHALT PAVEMENT (RAP) (BMPR)**

Effective: January 1, 2007

Revised: March 1, 2011

In Article 1030.02(g), delete the last sentence of the first paragraph in (Note 2).

Revise Section 1031 of the Standard Specifications to read:

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

**1031.01 Description.** Reclaimed asphalt pavement (RAP) is reclaimed asphalt pavement resulting from cold milling or crushing of an existing dense graded 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.

**1031.02 Stockpiles.** The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. 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 District to provide verification of the quality of the RAP to clarify appropriate stockpile.

- (a) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent 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. All FRAP shall be fractionated prior to testing by screening into a minimum of two size fractions with the separation occurring on or between the #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 one sieve size larger than the maximum sieve size specified for the mix the RAP will be used in.
- (b) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent 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 “homogenous” with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.

- (c) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent 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. All 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 or other expansive material as determined by the Department.
- (d) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from Class I, Superpave (High or Low ESAL), HMA (High or Low ESAL), or equivalent mixtures. 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. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (e) 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, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

**1031.03 Testing.** When used in HMA, the RAP/FRAP shall be sampled and tested either during or after 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 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

For testing after stockpiling, the Contractor shall submit a plan for approval to the District 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.

Before extraction, each field sample shall be split to obtain two 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 extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

**Evaluation of Test Results.** All of the extraction results shall be compiled and averaged for asphalt binder content and gradation and, when applicable  $G_{mm}$ . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

| Parameter         | FRAP/Homogeneous/Conglomerate | Conglomerate "D" Quality |
|-------------------|-------------------------------|--------------------------|
| 1 in. (25 mm)     |                               | ± 5 %                    |
| 1/2 in. (12.5 mm) | ± 8 %                         | ± 15 %                   |
| No. 4 (4.75 mm)   | ± 6 %                         | ± 13 %                   |
| No. 8 (2.36 mm)   | ± 5 %                         |                          |
| No. 16 (1.18 mm)  |                               | ± 15 %                   |
| No. 30 (600 μm)   | ± 5 %                         |                          |
| No. 200 (75 μm)   | ± 2.0 %                       | ± 4.0 %                  |
| Asphalt Binder    | ± 0.4 % <sup>1/</sup>         | ± 0.5 %                  |
| G <sub>mm</sub>   | ± 0.03                        |                          |

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

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt binder content test results fall outside the appropriate 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 District for evaluation.

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

#### **1031.04 Quality Designation of Aggregate in RAP/FRAP.**

(a) The aggregate quality of the RAP for homogenous, conglomerate, and conglomerate "D" quality 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, Superpave (High ESAL)/HMA (High ESAL), or HMA (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
- (2) RAP from Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
- (3) RAP from Class I, Superpave (High ESAL), or HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
- (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

(b) The aggregate quality of FRAP shall be determined as follows.

- (1) 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 according to Article 1031.04(b)(2).
- (2) Fractionated stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5000 tons (4500 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 prequalified by the Department for the specified testing. The consultant shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent will be applied for all HMA applications.”

**1031.05 Use of RAP/FRAP in HMA.** The use of RAP/FRAP shall be a Contractor’s option when constructing HMA in all contracts. The use of RAP/FRAP in HMA shall be as follows.

- (a) 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.
- (b) Steel Slag Stockpiles. RAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) surface mixtures only.
- (c) 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. RAP/FRAP shall be considered equivalent to Limestone for frictional considerations unless produced/screened to minus 3/8 inch.
- (d) 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.
- (e) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, conglomerate, or conglomerate DQ.
- (f) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in the table below for a given N Design.

Max RAP Percentage

| HMA Mixtures <sup>1/, 3/</sup> | Maximum % RAP          |                       |                  |
|--------------------------------|------------------------|-----------------------|------------------|
|                                | Binder/Leveling Binder | Surface               | Polymer Modified |
| Ndesign 30                     | 30                     | 30                    | 10               |
| 50                             | 25                     | 15                    | 10               |
| 70                             | 15 / 25 <sup>2/</sup>  | 10 / 15 <sup>2/</sup> | 10               |
| 90                             | 10                     | 10                    | 10               |
| 105                            | 10                     | 10                    | 10               |

1/ For HMA “All Other” (shoulder and stabilized subbase) N-30, the amount of RAP shall not exceed 50% of the mixture.

2/ Value of Max % RAP if homogeneous RAP stockpile of IL-9.5 RAP is utilized.

- 3/ When RAP exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent RAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275 °F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when RAP exceeds 25 percent (i.e. 26 percent RAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28)..

(g) When the Contractor chooses the FRAP option, the percentage of FRAP shall not exceed the amounts indicated in the tables below for a given N Design.

(1) Level 1 Max FRAP Percentage

| HMA Mixtures <sup>1/, 2/</sup> | Level 1 - Maximum % FRAP |         |                                    |
|--------------------------------|--------------------------|---------|------------------------------------|
|                                | Binder/Leveling Binder   | Surface | Polymer <sup>3/, 4/</sup> Modified |
| Ndesign 30                     | 35                       | 35      | 10                                 |
| 50                             | 30                       | 25      | 10                                 |
| 70                             | 25                       | 20      | 10                                 |
| 90                             | 20                       | 15      | 10                                 |
| 105                            | 10                       | 10      | 10                                 |

- 1/ For HMA “All Other” (shoulder and stabilized subbase) N30, the amount of FRAP shall not exceed 50 percent of the mixture.
- 2/ When FRAP exceeds 20 percent for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275°F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP exceeds 25 percent (i.e. 26 percent FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).
- 3/ For SMA the maximum FRAP shall be 20 percent. When the FRAP usage in SMA exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).
- 4/ For IL-4.75 mix the amount of minus #4 fine fraction FRAP shall not exceed 20 percent. When the FRAP usage in IL-4.75 exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

(2) Level 2 Max FRAP Percentage

| HMA Mixtures <sup>1/, 2/</sup> | Level 2 - Maximum % FRAP |         |                                    |
|--------------------------------|--------------------------|---------|------------------------------------|
|                                | Binder/Leveling Binder   | Surface | Polymer Modified <sup>3/, 4/</sup> |
| 30                             | 40                       | 40      | 10                                 |
| 50                             | 40                       | 30      | 10                                 |
| 70                             | 30                       | 20      | 10                                 |
| 90                             | 30                       | 20      | 10                                 |
| 105                            | 30                       | 15      | 10                                 |

1/ For HMA “All Other” (shoulder and stabilized subbase) N30, the amount of FRAP shall not exceed 50 percent of the mixture.

2/ When FRAP exceeds 20 percent for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275°F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP exceeds 25 percent (i.e. 26 percent FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).

3/ For SMA the maximum FRAP shall be 20 percent. When the FRAP usage in SMA exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

4/ For IL-4.75 mix the amount of minus #4 fine fraction FRAP shall not exceed 30 percent. When the FRAP usage in IL-4.75 exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

**1031.06 HMA Mix Designs.** At the Contractor’s option, HMA mixtures may be constructed utilizing RAP/FRAP material meeting the above detailed requirements.

FRAP mix designs exceeding the Level 1 FRAP percentages shall be tested prior to submittal for verification, according to Illinois Modified AASHTO T324 (Hamburg Wheel) and shall meet the following requirements:

| Asphalt Binder Grade | # Repetitions | Max Rut Depth (mm) |
|----------------------|---------------|--------------------|
| PG76-XX              | 20,000        | 12.5               |
| PG70-XX              | 15,000        | 12.5               |
| PG64-XX              | 10,000        | 12.5               |
| PG58-XX              | 10,000        | 12.5               |

RAP/FRAP designs shall be submitted for volumetric verification.



If additional RAP/FRAP stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP/FRAP stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP stockpiles may be used in the original mix design at the percent previously verified.

**1031.07 HMA Production.** Mixture production where the FRAP percentage exceeds the Level 1 limits shall be sampled within the first 500 tons on the first day of production with a split reserved for the Department. The mix sample shall be tested according to Illinois Modified AASHTO T324 and shall meet the requirements specified herein. FRAP mix production shall not exceed 1,500 tons or one days production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced FRAP mixture conformance is demonstrated prior to start of mix production for the contract.

The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

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 feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

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

HMA plants utilizing RAP/FRAP shall be capable of automatically recording and printing the following information.

(a) Dryer Drum Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (4) Accumulated dry weight of RAP/FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (5) Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- (6) Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- (7) Residual asphalt binder in the RAP/FRAP material as a percent of the total mix to the nearest 0.1 percent.

- (8) Aggregate and RAP/FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP are printed in wet condition.)

(b) Batch Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- (4) Mineral filler weight to the nearest pound (kilogram).
- (5) RAP/FRAP weight to the nearest pound (kilogram).
- (6) Virgin asphalt binder weight to the nearest pound (kilogram).
- (7) Residual asphalt binder in the RAP/FRAP 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.

**1031.08 RAP in Aggregate Surface Course and Aggregate Shoulders.** The use of RAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) 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.
- (b) 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."

### **TYPE III TEMPORARY TAPE FOR WET CONDITIONS**

Effective: February 1, 2007

Description. This work shall consist of furnishing, installing, maintaining and removing Type III Temporary Pavement Marking Tape for Wet Conditions.

Type III Temporary Tape shall meet the requirements of Article 1095.06 of the Standard Specifications. Initial minimum reflectance values under dry and wet conditions shall be as specified in Article 1095.06. The marking tape shall maintain its reflective properties when submerged in water. The wet reflective properties shall be verified by a visual inspection method performed by the Department. The surface of the material shall provide an average skid resistance of 50 BPN when tested according to ASTM E 303.

Prior to application a surface preparation adhesive shall be applied to a clean, dry road surface. The pavement marking tape shall have a pre-coated pressure sensitive adhesive and shall require no activation procedures.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for WET REFLECTIVE TEMPORARY TAPE TYPE III of the line width specified, and at the contract unit price per square foot (square meter) for WET REFLECTIVE TEMPORARY LETTERS AND SYMBOLS.

### **BITUMINOUS PRIME COAT FOR HOT-MIX ASPHALT PAVEMENT (FULL DEPTH)(D-1)**

Effective: May 1, 2007

Revise Article 407.06(b) of the Standard Specifications to read:

“A bituminous prime coat shall be applied between each lift of HMA according to Article 406.05(b) at a rate of 0.02 to 0.05 gal/sq yd (0.1 to 0.2 L/sq m), the exact rate to be determined by the Engineer.”

Revise the second paragraph of Article 407.12 of the Standard Specifications to read:

“Prime Coat will be paid for at the contract unit price per gallon (liter) or per ton (metric ton) for BITUMINOUS MATERIALS (PRIME COAT).”

### **TRAFFIC SIGNAL SPECIFICATIONS**

Effective: October 28, 2009

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer. Traffic signal construction and maintenance work shall be performed by personnel holding IMSA Traffic Signal Technician Level II certification. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

## **SECTION 720 SIGNING**

### **MAST ARM SIGN PANELS.**

Add the following to Article 720.02 of the Standard Specifications:

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by the District Sign Shops. Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware are acceptable based upon the Department's approval.

## **DIVISION 800 ELECTRICAL**

### **SUBMITTALS.**

Revise Article 801.05 of the Standard Specifications to read:

The Contractor shall provide:

- a. All material approval requests shall be submitted at the preconstruction meeting, including major traffic signal items listed in the table in Article 801.05..
- b. All material or equipment which are similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
- c. Seven (7) copies of a letter from the Traffic Signal Contractor on company letterhead listing the contract number or permit number, project location/limits, pay item description, pay code number, manufacturer's name and model numbers of the proposed equipment and stating that the proposed equipment meets all contract requirements. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approvable.
- d. Seven (7) copies of shop drawings for mast arm poles and assemblies, including combination mast arm poles, are required. A minimum of two (2) copies of all other material catalog cuts are required. Submittals for equipment and materials shall be complete. Partial or incomplete submittals will be returned without review.
- e. Certain non-standard mast arm poles and assemblies will require additional review from IDOT's Central Office. Examples include ornamental/decorative and non-standard length mast arm pole assemblies. The Contractor shall account for the additional review time in his schedule.
- f. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of the letter, material catalog cuts and mast arm poles and assemblies drawings.
- g. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
- h. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Information Only'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
- i. All submitted items reviewed and marked 'APPROVED AS NOTED', or 'DISAPPROVED' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
- j. Exceptions, Deviations and Substitutions. In general, exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

### **INSPECTION OF ELECTRICAL SYSTEMS.**

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier facilities prior to field installation, at no extra cost to this contract.

### **MAINTENANCE AND RESPONSIBILITY.**

Revise Article 801.11 of the Standard Specifications to read:

- a) Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, or the Municipality in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. Automatic Traffic Enforcement equipment is not owned by the State and the Contractor shall not be responsible for maintaining it during construction. The Contractor shall supply the engineer and the Department's Electrical Maintenance Contractor a 24-hour emergency contact name and telephone number.
- b) When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.
- c) Contracts such as pavement grinding or patching which result in the destruction of traffic signal loops do not require maintenance transfer, but require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection. Damaged Automatic Traffic Enforcement equipment, including cameras, detectors, or other peripheral equipment, shall be replaced by others, per Permit agreement, at no cost to the contract. See additional requirements in these specifications under Inductive Loop Detector.

- d) The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shutdown the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- e) The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The District's Electrical Maintenance Contractor may inspect any signaling device on the Department's highway system at any time without notification.
- f) Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

#### **DAMAGE TO TRAFFIC SIGNAL SYSTEM.**

Add the following to Article 801.12(b) of the Standard Specifications to read:

Any traffic signal control equipment damaged or not operating properly from any cause whatsoever shall be repaired with new equipment provided by the Contractor at no additional cost to the Contract and or owner of the traffic signal system, all as approved by the Engineer. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause whatsoever, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

#### **TRAFFIC SIGNAL INSPECTION (TURN-ON).**

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the vendor prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will not grant a field inspection until notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Department's facsimile number is (847) 705-4089. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to direct traffic at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons. Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following from the Contractor at traffic signal turn-ons.

1. One set of signal plans of record with field revisions marked in red ink.
2. Written notification from the Contractor and the equipment vendor of satisfactory field testing.
3. A knowledgeable representative of the controller equipment supplier shall be required at the traffic signal turn-on. The representative shall be knowledgeable of the cabinet design and controller functions.
4. A copy of the approved material letter.
5. One (1) copy of the operation and service manuals of the signal controller and associated control equipment.
6. Five (5) copies 11" x 17" (280 mm X 430 mm) of the cabinet wiring diagrams.
7. The controller manufacturer shall supply a printed form, not to exceed 11" x 17" (280 mm X 430 mm) for recording the traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard.

The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

#### **LOCATING UNDERGROUND FACILITIES**

Revise Section 803 to the Standard Specifications to read:

If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

#### **RESTORATION OF WORK AREA.**

Add the following article to Section 801 of the Standard Specifications:

**801.17 Restoration of work area.** Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, trench and backfill, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind.



All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration or as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

### **ELECTRIC SERVICE INSTALLATION.**

Revise Section 805 of the Standard Specifications to read:

#### Description.

This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details" and applicable portions of the Specifications.

#### General.

The electric service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company. The service agreement and sketch shall be submitted for signature to the Traffic Program's engineer.

#### Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures.
  1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.
  2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged.

The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.

- c. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <math>5n</math> seconds and operate within a range of  $-40C$  to  $+85C$ . The surge protector shall be UL 1449 Listed.
- d. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- e. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
- f. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
- g. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.
- h. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

#### Installation.

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.

- b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.
- c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment.

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The CONCRETE FOUNDATION, TYPE A, which includes the ground rod, shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch (20mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

**GROUNDING OF TRAFFIC SIGNAL SYSTEMS.**

Revise Section 806 of the Standard Specifications to read:

General.

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. See IDOT District One Traffic Signal detail plan sheets for additional information.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable concrete foundation or service installation pay item and will not be paid for separately.

Testing shall be according to Article 801.13 (a) (4) and (5).

- (a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- (b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.
  - 1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.
  - 2. Equipment grounding conductors shall be bonded, using a Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein.

Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A Listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations.

3. All metallic and non-metallic raceways containing traffic signal circuit runs shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.
  4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, listed pressure connectors, listed clamps or other approved listed means.

### **GROUNDING EXISTING HANDHOLE FRAME AND COVER**

#### Description.

This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details," and applicable portions of the Standard Specifications and these specifications.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty Listed grounding compression terminal (Burdny type YGHA or approved equal). The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminants. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

#### Method of Measurement.

Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

#### Basis of Payment.

This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

## **COILABLE NON-METALLIC CONDUIT.**

### Description.

This work shall consist of furnishing and installing empty coilable non-metallic conduit (CNC) for detector loop raceways.

### General.

The CNC installation shall be in accordance with Sections 810 and 811 of the Standard Specifications except for the following:

Add the following to Article 810.03 of the Standard Specifications:

CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes.

Add the following to Article 811.03 of the Standard Specifications:

On temporary traffic signal installations with detector loops, CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways from the saw-cut to 10 feet (3m) up the wood pole, unless otherwise shown on the plans

### Basis of Payment.

All installations of CNC for loop detection shall be included in the contract and not paid for separately.

## **HANDHOLES.**

Add the following to Section 814 of the Standard Specifications:

All handholes shall be concrete, poured in place, with inside dimensions of 21-1/2 inches (549mm) minimum. Frames and lid openings shall match this dimension. The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (15.875mm) diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (300mm).

All conduits shall enter the handhole at a depth of 30 inches (760mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (12.7 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (150 mm). Hooks shall be placed a minimum of 12 inches (300 mm) below the lid or lower if additional space is required.

**GROUNDING CABLE.**

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

The traffic signal grounding conductor shall be bonded, using a Listed grounding connector (Burdndy type KC/K2C, as applicable, or approved equal), to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. The grounding conductor shall be bonded to conduit terminations using rated grounding bushings. Bonding to existing handhole frames and covers shall be paid for separately.

Add the following to Article 817.05 of the Standard Specifications:

**Basis of Payment.**

Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, conduit grounding bushings, and other hardware.

**RAILROAD INTERCONNECT CABLE.**

The cable shall meet the requirements of Section 873 of the Standard Specifications, except for the following:

Add to Article 873.02 of the Standard Specifications:

The railroad interconnect cable shall be three conductor stranded #14 copper cable in a clear polyester binder, shielded with #36 AWG tinned copper braid with 85% coverage, and insulated with .016" polyethylene (black, blue, red). The jacket shall be black 0.045 PVC or polyethylene.

Add the following to Article 873.05 of the Standard Specifications:

**Basis of Payment.**

This work shall be paid for at the contract unit price per foot (meter) for ELECTRIC CABLE IN CONDUIT, RAILROAD, NO. 14 3C, which price shall be payment in full for furnishing, installing, and making all electrical connections in the traffic signal controller cabinet. Connections in the railroad controller cabinet shall be performed by railroad personnel.

**FIBER OPTIC TRACER CABLE.**

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable will be allowed to be spliced at handholes only. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. All exposed surfaces of the solder shall be smooth. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600v, minimum length 4 inches (100 mm) and with a minimum 1 inch (25 mm) coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

### **MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.**

Revise Articles 850.02 and 850.03 of the Standard Specifications to read:

Procedure.

The energy charges for the operation of the traffic signal installation shall be paid for by others. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof.

The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, uninterruptible power supply (UPS and batteries), telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment, but shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment, not owned by the State.

Maintenance.

The maintenance shall be according to MAINTENANCE AND RESPONSIBILITY in Division 800 of these specifications and the following:

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment.

The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

The Contractor shall respond to all emergency calls from the Department or others within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work required. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

#### **TRAFFIC ACTUATED CONTROLLER.**

Add the following to Article 857.02 of the Standard Specifications:

Controllers shall be NTCIP compliant NEMA TS2 Type 1, Econolite ASC/3S-1000 or Eagle/Siemens M50 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment manufacturers will be allowed. The controller shall be the most recent model and software version supplied by the manufacturer at the time of the approval and include the standard data key. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events.



**MASTER CONTROLLER.**

Revise Articles 860.02 - Materials and 860.03 - Installation of the Standard Specifications to read:

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be allowed. Only NEMA TS 2 Type 1 Eagle/Siemens and Econolite closed loop systems shall be supplied. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in Section 863 of the Standard Specifications include:

The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

Upon request by the Engineer, each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacture's support. Each set shall consist of software on CD, DVD, or other suitable media approved by the Engineer, and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation, if other than IDOT. One of these two sets will be provided to the Agency Signal Maintenance Contractor for use in monitoring the system.

The approved manufacturer of equipment shall loan the District one master controller and two intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the Contract.

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process utilizing District One staff. This telephone line may be coupled with a DSL line and a phone filter to isolate the dial-up line. An E911 address is required.

The cabinet shall be provided with an Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date.

Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud minimum and shall be capable of speeds to 38,400 or above as technology allows. The controller, when installed in an Ethernet topology, may operate non-serial communications.

The cabinet shall be equipped with a 9600 baud, auto dial/auto answer modem. It shall be a US robotics 33.6K baud rate or equal.

As soon as practical or within one week after the contract has been awarded, the Contractor shall contact (via phone) the Administrative Support Manager in the District One Business Services Section at (847) 705-4011 to request a phone line installation.

A follow-up fax transmittal to the Administrative Support Manager (847-705-4712) with all required information pertaining to the phone installation is required from the Contractor as soon as possible or within one week after the initial request has been made. A copy of this fax transmittal must also be faxed by the Contractor to the Traffic Signal Systems Engineer at (847) 705-4089. The required information to be supplied on the fax shall include (but not limited to): A street address for the new traffic signal controller (or nearby address); a nearby existing telephone number; what type of telephone service is needed; the name and number of the Contractor's employee for the telephone company to contact regarding site work and questions.

The usual time frame for the activation of the phone line is 4-6 weeks after the Business Services Section has received the Contractor supplied fax. It is, therefore, imperative that the phone line conduit and pull-string be installed by the Contractor in anticipation of this time frame. On jobs which include roadway widening in which the conduit cannot be installed until this widening is completed, the Contractor will be allowed to delay the phone line installation request to the Business Services Section until a point in time that is 4-6 weeks prior to the anticipated completion of the traffic signal work. The contractor shall provide the Administrative Support Manager with an expected installation date considering the 4-6 week processing time.

The telephone line shall be installed and activated one month before the system final inspection.

All costs associated with the telephone line installation and activation (not including the Contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the District One Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

#### **UNINTERRUPTIBLE POWER SUPPLY.**

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of six hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTIBLE POWER SUPPLY in Division 1000 of these specifications.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet. The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Revise Article 862.04 of the Standard Specifications to read:

#### **Installation.**

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTABLE POWER SUPPLY. Replacement of Emergency Vehicle Priority System confirmation beacons shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY item.

**FIBER OPTIC CABLE.**

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 872.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be CSC FTWO12KST-W/O 12 Port Fiber Wall Enclosure or an approved equivalent. The fiber optic cable shall provide six fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

**MAST ARM ASSEMBLY AND POLE.**

Revise Article 877.01 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a steel mast arm and assembly and a galvanized steel or extruded aluminum shroud for protection of the base plate.

Revise Article 877.03 of the Standard Specifications:

Mast arm assembly and pole shall be as follows.

- (a) Steel Mast Arm Assembly and Pole and Steel Combination Mast Arm Assembly and Pole. The steel mast arm assembly and pole and steel combination mast arm assembly and pole shall consist of a traffic signal mast arm, a luminaire mast arm or davit (for combination pole only), a pole, and a base, together with anchor rods and other appurtenances. The configuration of the mast arm assembly, pole, and base shall be according to the details shown on the plans.
- (1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans, whichever is greater. The design shall be according to AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 1994 Edition for 80 mph (130 km/hr) wind velocity. However, the arm-to-pole connection for tapered signal and luminaire arms shall be according to the "ring plate" detail as shown in Figure 11-1(f) of the 2002 Interim, to the AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 2001 4<sup>th</sup> Edition.
  - (2) Structural Steel Grade. The mast arm and pole shall be fabricated according to ASTM A 595, Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2. The base and flange plates shall be of structural steel according to AASHTO M 270 Grade 50 (M 270M Grade 345). Luminaire arms and trussed arms 15 ft (4.5 m) or less shall be fabricated from one steel pipe or tube size according to ASTM A 53 Grade B or ASTM A 500 Grade B or C. All mast arm assemblies, poles, and bases shall be galvanized according to AASHTO M 111.
  - (3) Fabrication. The design and fabrication of the mast arm assembly, pole, and base shall be according to the requirements of the Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals published by AASHTO. The mast arm and pole may be of single length or sectional design. If section design is used, the overlap shall be at least 150 percent of the maximum diameter of the overlapping section and shall be assembled in the factory.  
  
The manufacturer will be allowed to slot the base plate in which other bolt circles may fit, providing that these slots do not offset the integrity of the pole. Circumferential welds of tapered arms and poles to base plates shall be full penetration welds.
  - (4) Shop Drawing Approval. The Contractor shall submit detailed drawings showing design materials, thickness of sections, weld sizes, and anchor rods to the Engineer for approval prior to fabrication. These drawings shall be at least 11 x 17 in. (275 x 425 mm) in size and of adequate quality for microfilming.
- (b) Anchor Rods. The anchor rods shall be ASTM F 1554 Grade 105, coated by the hot-dip galvanizing process according to AASHTO M 232, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and have a bend at the other end. The first 12 in. (300 mm) at the threaded end shall be galvanized. Two nuts, one lock washer, and one flat washer shall be furnished with each anchor rod. All nuts and washers shall be galvanized.

- (c) The galvanized steel or extruded aluminum shroud shall have dimensions similar to those detailed in the "District One Standard Traffic Signal Design Details." The shroud shall be installed such that it allow air to circulate throughout the mast arm but not allow infestation of insects or other animals, and such that it is not hazardous to probing fingers and feet.

Add the following to Article 877.04 of the Standard Specifications:

The shroud shall not be paid for separately but shall be included in the cost of the mast arm assembly and pole.

### **CONCRETE FOUNDATIONS.**

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. (300 mm) from the threaded end.

Concrete Foundations, Type "A" for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the "District One Standard Traffic Signal Design Details." All Type "A" foundations shall be a minimum depth of 48 inches (1220 mm).

Concrete Foundations, Type "C" for Traffic Signal Cabinets with Uninterruptible Power Supply (UPS) cabinet installations shall be a minimum of 72 inches (1830 mm) long and 31 inches (790 mm) wide. All Type "C" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron in front of the Type IV or V cabinet shall be 36 in. x 48 in. x 5 in. (915 mm X 1220 mm X 130 mm). The concrete apron in front of the UPS cabinet shall be 36 in. x 67 in. x 5 in. (915 mm X 1700 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "D" for Traffic Signal Cabinets shall be a minimum of 48 inches (1220 mm) long and 31 inches (790 mm) wide. All Type "D" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron shall be 36 in. x 48 in. x 5 in. (910 mm X 1220 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "E" for Mast Arm and Combination Mast Arm Poles shall meet the current requirements listed in the Highway Standards.

Foundations used for Combination Mast Arm Poles shall provide an extra 2-1/2 inch (65 mm) raceway.

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation.

### **SIGNAL HEAD, LED**

Revise Article 880.02 of the Standard Specifications to read:

Materials.

Materials shall be according to SIGNAL HEAD, LED in Division 1000 of these specifications.

Add the following to Article 880.04 of the Standard Specifications:

Basis of Payment.

The price for SIGNAL HEAD, LED shall be payment in full for furnishing the equipment described above including signal head with LED modules, all mounting hardware, and installing them in satisfactory operating condition.

**SIGNAL HEAD, LED, RETROFIT**

Description.

This work shall consist of retrofitting an existing polycarbonate traffic signal head with a traffic signal module, pedestrian signal module, and pedestrian countdown signal module, with light emitting diodes (LEDs) as specified in the plans.

Materials.

Materials shall be according to SIGNAL HEAD, LED, and PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED in Divisions 800 and 1000 of these specifications.

Add the following to Article 880.04 of the Standard Specifications:

Basis of Payment.

This item shall be paid for at the contract unit price each for SIGNAL HEAD, LED, RETROFIT, or PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, for the type and number of polycarbonate signal heads, faces, and sections specified, which price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

**PEDESTRIAN SIGNAL HEAD, LED**

Revise Article 881.01 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a pedestrian signal head with light emitting diodes (LED) or pedestrian countdown signal head, with light emitting diodes (LED) of the type specified in the plans.

**All pedestrian signals at an intersection shall be the same type and have the same display. No mixing of different types of pedestrian traffic signals or displays will be permitted.**

Revise Article 881.02 of the Standard Specifications to read:

Materials.

Materials shall be according to SIGNAL HEAD, LED, and PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED in Divisions 800 and 1000 of these specifications.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with the housings glossy black polycarbonate. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.
- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Revise Article 881.04 of the Standard Specifications to read:

Basis of Payment.

This item shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, or PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, of the type specified and of the particular kind of material when specified, which price shall be payment in full for furnishing the equipment described above including signal head with LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

**DETECTOR LOOP.**

Revise Section 886 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a detector loop in the pavement.

Procedure.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4424 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the Portland cement concrete surface, using the same notification process as above.

Installation.

Loop detectors shall be installed according to the requirements of the "District One Standard Traffic Signal Design Details." Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit PLFIM water proof tag, or an approved equal, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

- (a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4 inch (6.3 mm) deep x 4 inches (100 mm) saw cut to mark location of each loop lead-in.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Percol Elastic Cement AC Grade or an approved equal. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface, if installed above the surface the overlap shall be removed immediately.

Detector loop measurements shall include the saw cut and the length of the loop lead-in to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be included in the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

- (b) Preformed. This work shall consist of furnishing and installing a rubberized or crosslinked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:

Preformed detector loops shall be installed in new pavement constructed of Portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. Loop lead-ins shall be extended to a temporary protective enclosure near the proposed handhole location. The protective enclosure shall provide sufficient protection from other construction activities and may be buried for additional protection.

Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. Non-metallic coilable duct, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.

Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 11/16 inch (17.2 mm) outside diameter (minimum), 3/8 inch (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kPa) internal pressure rating or a similarly sized XLPE cable jacket. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. For XLPE jacketed preformed loops, all splice connections shall be soldered, sealed, and tested before being sealed in a high impact glass impregnated plastic splice enclosure. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly.



The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole.

Method of Measurement.

This work will be measured for payment in feet (meters) in place. Type I detector loop will be measured along the sawed slot in the pavement containing the loop and lead-in, rather than the actual length of the wire. Preformed detector loops will be measured along the detector loop and lead-in embedded in the pavement, rather than the actual length of the wire.

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

**EMERGENCY VEHICLE PRIORITY SYSTEM.**

Revise Section 887 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District One Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, maximum 6 watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signaled by a flashing indication at the rate specified by Section 4D-11 of the "Manual on Uniform Traffic Control Devices," and other applicable sections of future editions. The stopped pre-empted movements shall be signaled by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz  $\pm$ 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

Basis of Payment.

The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be included in the cost of the Light Detector. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

## **TEMPORARY TRAFFIC SIGNAL INSTALLATION.**

Revise Section 890 of the Standard Specifications to read:

### Description.

This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptible power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Traffic Management System.

### General.

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. Also, an approved equipment vendor shall assemble and test a temporary railroad traffic signal cabinet. (Refer to the "Inspection of Controller and Cabinet" specification). A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

### Construction Requirements.

#### (a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption. All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications as modified herein.
2. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.

(b) Cabinets. All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4 inch (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

- (c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the Standard Specifications and shall meet the requirements of the District 1 Traffic Signal Specifications for "Grounding of Traffic Signal Systems."
- (d) Traffic Signal Heads. All traffic signal sections and pedestrian signal sections shall be 12 inches (300 mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.
- (e) Interconnect.
1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.
  2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the item Temporary Traffic Signal Installation. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project.
  3. Temporary wireless interconnect, compete. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This item shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:
    - a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
    - b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
    - c. Antennas (Omni Directional or Yagi Directional)
    - d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
    - e. Brackets, Mounting Hardware, and Accessories Required for Installation
    - f. RS232 Data Cable for Connection from the radio to the local or master controller
    - g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in this item.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

The proposed master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the manufacturers recommendations.

The following radio equipment is currently approved for use in Region One/District One: Encom Model 5100 and Intuicom Communicator II.

- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz  $\pm$ 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.
- (g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. All approaches shall have vehicular detection provided by vehicle detection system as shown on the plans or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system shall be approved by IDOT prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.
- (h) Uninterruptible Power Supply. When called for in the plans, the UPS cabinet shall be mounted to the temporary traffic signal cabinet and meet the requirements of UNINTERRUPTIBLE POWER SUPPLY in Divisions 800 and 1000 of these specifications.

- (i) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.
- (j) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.
- (k) Maintenance. Maintenance shall meet the requirements of the Standard Specifications and MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION in Division 800 of these specifications. Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic Operations (847) 705-4424 for an inspection of the installation(s).
- (l) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, District One Traffic Signal Specifications and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition all electric cable shall be aerially suspended, at a minimum height of 18 feet (5.5m) on temporary wood poles (Class 5 or better) of 45 feet (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system may be used in place of detector loops as approved by the Engineer.
- (m) Temporary Portable Traffic Signal for Bridge Projects.
  - 1. Unless otherwise directed by the Engineer, temporary portable traffic signals shall be restricted to use on roadways of less than 8000 ADT that have limited access to electric utility service, shall not be installed on projects where the estimated need exceeds ten (10) weeks, and shall not be in operation during the period of November through March. The Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract if the bridge project or Engineer requires temporary traffic signals to remain in operation into any part of period of November through March. If, in the opinion of the engineer, the reliability and safety of the temporary portable traffic signal is not similar to that of a temporary span wire traffic signal installation, the Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract.
  - 2. The controller and LED signal displays shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification.

3. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.
4. General.
  - a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.
  - b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.
  - c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
  - d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.
  - e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
  - f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as nonoperating equipment according to Article 701.11.
  - g. Basis of Payment. This work will be paid for according to Article 701.20(c).

Basis of Payment.

This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, the price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal.

Each intersection will be paid for separately.

### **REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.**

Add the following to Article 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of outside the right-of-way at the Contractor's expense.

All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide 5 copies of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned with these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up or delivery of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

### **TRAFFIC SIGNAL PAINTING.**

Description.

This work shall include surface preparation, powder type painted finish application and packaging of new galvanized steel traffic signal mast arm poles and posts assemblies. All work associated with applying the painted finish shall be performed at the manufacturing facility for the pole assembly or post or at a painting facility approved by the Engineer. Traffic signal mast arm shrouds and post bases shall also be painted the same color as the pole assemblies and posts.

#### **Surface Preparation.**

All weld flux and other contaminates shall be mechanically removed. The traffic mast arms and post assemblies shall be degreased, cleaned, and air dried to assure all moisture is removed.

#### **Painted Finish.**

All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils.

Prior to application, the surface shall be mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450 °F for a minimum one (1) hour. The coating shall be electrostatically applied and cured by elevating the zinc-coated substrate temperature to a minimum of 400 °F.

The finish paint color shall be one of the manufacturer's standard colors and shall be as selected by the local agency responsible for paint costs. The Contractor shall confirm, in writing, the color selection with the local responsible agency and provide a copy of the approval to the Engineer and a copy of the approval shall be included in the material catalog submittal.

Painting of traffic signal heads, pedestrian signal heads and controller cabinets is not included in this pay item.

Any damage to the finish after leaving the manufacturer's facility shall be repaired to the satisfaction of the Engineer using a method recommended by the manufacturer and approved by the Engineer. If while at the manufacturer's facility the finish is damaged, the finish shall be re-applied at no cost to the contract.

#### Warranty.

The Contractor shall furnish in writing to the Engineer, the paint manufacturer's standard warranty and certification that the paint system has been properly applied.

#### Packaging.

Prior to shipping, the poles and posts shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

#### Basis of Payment.

This work shall be paid for at the contract unit price each for PAINT NEW MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, PAINT NEW COMBINATION MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW COMBINATION MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, or PAINT NEW TRAFFIC SIGNAL POST of the length specified, which shall be payment in full for painting and packaging the traffic signal mast arm poles and posts described above including all shrouds, bases and appurtenances.

### **ILLUMINATED STREET NAME SIGN**

#### Description.

This work shall consist of furnishing and installing a LED internally illuminated street name sign.

#### Materials.

Materials shall be in accordance with ILLUMINATED STREET NAME SIGN in Division 1000 of these specifications.

#### Installation.

The sign can be mounted on most steel mast arm poles. Mounting on aluminum mast arm pole requires supporting structural calculations. Some older or special designed steel mast arm poles may require structural evaluation to assure that construction of the mast arm pole is adequate for the proposed additional loading. Structural calculations and other supporting documentation as determined by the Engineer shall be provided by the contractor for review by the Department.



The sign shall be located on a steel traffic signal mast arm no further than 8-feet from the center of the pole to the center of the sign at a height of between 16 to 18-feet above traveled pavement. Mounting hardware shall be Pelco model SE-5015, or approved equal, utilizing stainless steel components.

Signs shall be installed such that they are not energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptible power supply (UPS). The signs shall be connected to the generator or UPS bypass circuitry.

#### Basis of Payment.

This work will be paid for at the contract unit price each for ILLUMINATED STREET NAME SIGN, of the length specified which shall be payment in full for furnishing and installing the LED internally illuminated street sign, complete with circuitry and mounting hardware including photo cell, circuit breaker, fusing, relay, connections and cabling as shown on the plans for proper operation and installation.

### **RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM**

#### Description.

This work shall consist of re-optimizing a closed loop traffic signal system according to the following Levels of work.

LEVEL I applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system. The purpose of this work is to integrate the improvements to the subject intersection into the signal system while minimizing the impacts to the existing system operation. This type of work would be commonly associated with the addition of signal phases, pedestrian phases, or improvements that do not affect the capacity at an intersection.

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

For the purposes of re-optimization work, an intersection shall include all traffic movements operated by the subject controller and cabinet.

After the signal improvements are completed, the signal shall be re-optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate.

The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer disks, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

1. The following tasks are associated with LEVEL I Re-Optimization.
  - a. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system.
  - b. Proposed signal timing plan for the new or modified intersection(s) shall be forwarded to IDOT for review prior to implementation.
  - c. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations.
2. The following deliverables shall be provided for LEVEL I Re-Optimization.
  - a. Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
  - b. Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.

(b) LEVEL II Re-Optimization

1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
  - a. Traffic counts shall be taken at the subject intersection after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
  - b. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
  - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.
2. The following deliverables shall be provided for LEVEL II Re-Optimization.
  - a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
    - (1) Brief description of the project

- (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
  - (3) Printed copies of the traffic counts conducted at the subject intersection
- b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
- (1) Electronic copy of the technical memorandum in PDF format
  - (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
  - (3) Traffic counts conducted at the subject intersection
  - (4) New or updated intersection graphic display file for the subject intersection
  - (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

#### Basis of Payment.

This work shall be paid for at the contract unit price each for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL I or RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL II, which price shall be payment in full for performing all work described herein per intersection. Following completion of the timings and submittal of specified deliverables, 100 percent of the bid price will be paid. Each intersection will be paid for separately.

#### **OPTIMIZE TRAFFIC SIGNAL SYSTEM**

##### Description.

This work shall consist of optimizing a closed loop traffic signal system.

OPTIMIZE TRAFFIC SIGNAL SYSTEM applies when a new or existing closed loop traffic signal system is to be optimized and a formal Signal Coordination and Timing (SCAT) Report is to be prepared. The purpose of this work is to improve system performance by optimizing traffic signal timings, developing a time of day program and a traffic responsive program.

After the signal improvements are completed, the signal system shall be optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer disks, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) The following tasks are associated with OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Appropriate signal timings and offsets shall be developed for each intersection and appropriate cycle lengths shall be developed for the closed loop signal system.
2. Traffic counts shall be taken at all intersections after the permanent traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit and multi-unit heavy vehicles.
3. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
4. A traffic responsive program shall be developed, which considers both volume and occupancy. A time-of-day program shall be developed for used as a back-up system.
5. Proposed signal timing plan for the new or modified intersection shall be forwarded to IDOT for review prior to implementation.
6. Consultant shall conduct on-site implementation of the timings and make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
7. Speed and delay studies shall be conducted during each of the count periods along the system corridor in the field before and after implementation of the proposed timing plans for comparative evaluations. These studies should utilize specialized electronic timing and measuring devices.

(b) The following deliverables shall be provided for OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Consultant shall furnish to IDOT one (1) copy of a SCAT Report for the optimized system. The SCAT Report shall include the following elements:

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| <p><b>Cover Page in color showing a System Map</b></p> <p><b>Figures</b></p> <ul style="list-style-type: none"> <li>. System overview map – showing system number, system schematic map with numbered system detectors, oversaturated movements, master location, system phone number, cycle lengths, and date of completion.</li> <li>. General location map in color – showing signal system location in the metropolitan area.</li> <li>. Detail system location map in color – showing cross street names and local controller addresses.</li> <li>. Controller sequence – showing controller phase sequence diagrams.</li> </ul> <p><b>Table of Contents</b></p> |
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| <p><b>Tab 1: Final Report</b></p> <ul style="list-style-type: none"> <li>. Project Overview</li> <li>. System and Location Description (Project specific)</li> <li>. Methodology</li> <li>. Data Collection</li> <li>. Data Analysis and Timing Plan Development</li> <li>. Implementation           <ul style="list-style-type: none"> <li>a. Traffic Responsive Programming (Table of TRP vs. TOD Operation)</li> </ul> </li> <li>. Evaluation           <ul style="list-style-type: none"> <li>a. Speed and Delay runs</li> </ul> </li> </ul>  |
| <p><b>Tab 2. Turning Movement Counts</b></p> <ul style="list-style-type: none"> <li>. Turning Movement Counts (Showing turning movement counts in the intersection diagram for each period, including truck percentage)</li> </ul>  |
| <p><b>Tab 3. Synchro Analysis</b></p> <ul style="list-style-type: none"> <li>. AM: Time-Space diagram in color, followed by intersection Synchro report (Timing report) summarizing the implemented timings.</li> <li>. Midday: same as AM</li> <li>. PM: same as AM</li> </ul>   |
| <p><b>Tab 4: Speed and Delay Studies</b></p> <ul style="list-style-type: none"> <li>. Summary of before and after runs results in two (2) tables showing travel time and delay time.</li> <li>. Plot of the before and after runs diagram for each direction and time period.</li> </ul>  |
| <p><b>Tab 5: Electronic Files</b></p> <ul style="list-style-type: none"> <li>. Two (2) CDs for the optimized system. The CDs shall include the following elements:           <ul style="list-style-type: none"> <li>. Electronic copy of the SCAT Report in PDF format</li> <li>. Copies of the Synchro files for the optimized system</li> <li>. Traffic counts for the optimized system</li> </ul> </li> <li>. New or updated intersection graphic display files for each of the system intersections and the system graphic display file including system detector locations and addresses.</li> </ul> |

Basis of Payment.

The work shall be paid for at the contract unit each for OPTIMIZE TRAFFIC SIGNAL SYSTEM, which price shall be payment in full for performing all work described herein for the entire traffic signal system. Following the completion of traffic counts, 25 percent of the bid price will be paid. Following the completion of the Synchro analysis, 25 percent of the bid price will be paid. Following the setup and fine tuning of the timings, the speed-delay study, and the TRP programming, 25 percent of the bid price will be paid. The remaining 25 percent will be paid when the system is working to the satisfaction of the engineer and the report and CD have been submitted.

**TEMPORARY TRAFFIC SIGNAL TIMINGS**

Description.

This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation.

The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMINGS.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings. Make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (b) Consultant shall provide monthly observation of traffic signal operations in the field.
- (c) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (d) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.

Basis of Payment.

The work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL TIMINGS, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.

**DIVISION 1000 MATERIALS**

**PEDESTRIAN PUSH-BUTTON.**

Revise Article 1074.02 of the Standard Specifications to read:

- (a) General. Push-button assemblies shall be ADA compliant, highly vandal resistant, be pressure activated with minimal movement and cannot be stuck in a closed or constant call position. A red latching LED and audible tone shall be provided for confirmation of an actuation call.
- (b) Latching LED. The normal state of the LED shall be off. When the push button is pressure activated, the LED shall be lighted and remain on until the beginning of the walk phase. The latching relay shall be mounted in the signal cabinet, controlling two pedestrian phases.
- (b) Housing. The push-button housing shall be solid 6061 aluminum and powder coated yellow, unless otherwise noted on the plans.
- (c) Actuator. The actuator shall be stainless steel with a solid state electronic Piezo switch rated for a minimum of 20 million cycles with no moving plunger or moving electrical contacts. The operating voltage shall be 12-24 V AC/DC.
- (d) Pedestrian Station. Stations shall be designed to be mounted directly to a post, mast arm pole or wood pole. The station shall be aluminum and will accept a 3-inch round push button assembly and a 9 X 12-inch R10-3e sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a 5 X 7 ¾ -inch R10-3b or R10-3d sign with arrow(s).

- (e) Location. Pedestrian push buttons and stations shall be mounted on poles and/or posts as shown on the plans and shall be fully accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details.

### **CONTROLLER CABINET AND PERIPHERAL EQUIPMENT.**

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 “A” wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Plug-in type EDCO SHA-1250 or Atlantic/Pacific approved equal.
- (b) (8) BIU – Containment screw required.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – Two (2) porcelain light receptacles with cage protection controlled by both a wall switch and a thermostat or a thermostatically controlled 150 watt strip heater.
- (b) (12) Plan & Wiring Diagrams – 12” x 16” (3.05mm x 4.06mm) moisture sealed container attached to door.
- (b) (13) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- (b) (14) Field Wiring Labels – All field wiring shall be labeled.
- (b) (15) Field Wiring Termination – Approved channel lugs required.
- (b) (16) Power Panel – Provide a nonconductive shield.
- (b) (17) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (18) Police Door – Provide wiring and termination for plug in manual phase advance switch.
- (b) (19) Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or equivalent.

### **RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET.**

Controller shall comply with Article 1073.01 as amended in these Traffic Signal Special Provisions.

Controller Cabinet and Peripheral Equipment shall comply with Article 1074.03 as amended in these Traffic Signal Special Provisions.

Add the following to Articles 1073.01 (c) (2) and 1074.03 (a) (5) (e) of the Standard Specifications:

Controllers and cabinets shall be new and NEMA TS2 Type 1 design.

A method of monitoring and/or providing redundancy to the railroad preemptor input to the controller shall be included as a component of the Railroad, Full Actuated Controller and Cabinet installation and be verified by the traffic signal equipment supplier prior to installation.

Railroad interconnected controllers and cabinets shall be assembled only by an approved traffic signal equipment supplier. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

**UNINTERRUPTIBLE POWER SUPPLY.**

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection's normal traffic signal operating connected load, plus 20 percent (20%). The total connected traffic signal load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 700 W/VA active output capacity, with 90 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, service receptacles, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:



The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

j. The battery cabinet shall have provisions for an external generator connection.

Add the following to Article 1074.04(c) of the Standard Specifications:

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate (Hubbell model HBL4716C or approved equal). Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

#### Battery System.

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic leadcalcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

Add the following to Article 1074.04(d) of the Standard Specifications:

- (9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of six hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

Add the following to the Article 1074.04 of the Standard Specifications:

- (e) Warranty. The warranty for an uninterruptible power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years from the date the traffic signal and UPS are placed into service.

### **ELECTRIC CABLE.**

Delete “or stranded, and No. 12 or” from the last sentence of Article 1076.04 (a) of the Standard Specifications.

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

### **TRAFFIC SIGNAL POST.**

Add the following to Article 1077.01 (b) of the Standard Specifications:

All posts and bases shall be steel and hot dipped galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with TRAFFIC SIGNAL PAINTING in Division 800 of these specifications.

### **MAST ARM ASSEMBLY AND POLE.**

Add the following to Article 1077.03 (a) of the Standard Specifications:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer. All poles shall be galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with TRAFFIC SIGNAL PAINTING in Division 800 of these specifications.

The shroud shall be of sufficient strength to deter pedestrian and vehicular damage. The shroud shall be constructed and designed to allow air to circulate throughout the mast arm but not allow infestation of insects or other animals, and such that it is not hazardous to probing fingers and feet. All mounting hardware shall be stainless steel.

### **SIGNAL HEADS.**

Add the following to Section 1078 of the Standard Specifications:

All signal and pedestrian heads shall provide 12” (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signal and/or pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

Pedestrian signal heads shall be furnished with the international symbolic "Walking Person" and "Upraised Palm" displays. Egg crate sun shields are not permitted.

Signal heads shall be positioned according to the "District One Standard Traffic Signal Design Details."

**SIGNAL HEAD, LIGHT EMITTING DIODE.**

Add the following to Article 1078 of the Standard Specifications

General.

LED signal heads (All Face and Section Quantities), (All Mounting Types) shall conform fully to the requirements of Articles 1078.01 and 1078.02 of the Standard Specifications amended herein.

1. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the State.
2. Each module shall consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections.
  - (a) Physical and Mechanical Requirements
    1. Modules can be manufactured under this specification for the following faces:
      - a. 12 inch (300 mm) circular, multi-section
      - b. 12 inch (300 mm) arrow, multi-section
      - c. 12 inch (300 mm) pedestrian, 2 sections
    2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
    3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
    4. Material used for the lens and signal module construction shall conform to ASTM specifications for the materials.
    5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.

6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.
7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

1. The minimum initial luminous intensity values for the modules shall conform to the values in Table 1 of the VTCSH (2005) for circular signal indications, and as stated in Table 3 of these specifications for arrow and pedestrian indications at 25 °C.
2. The modules shall meet or exceed the illumination values stated in Article 1078.01(3)c of the Standard Specifications for circular signal indications, and Table 3 of these specifications for arrow and pedestrian indications, throughout the useful life based on normal use in a traffic signal operation over the operating temperature range.
3. The measured chromaticity coordinates of the modules shall conform to the chromaticity requirements of Section 4.2 of the VTCSH (2005) or applicable successor ITE specifications.
4. The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.
3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
6. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.

2. Retrofit modules can be manufactured under this specification for the following faces:
    - a. 12 inch (300 mm) circular, multi-section
    - b. 12 inch (300 mm) arrow, multi-section
    - c. 12 inch (300 mm) pedestrian, 2 sections
  3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
  4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
  5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
  6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.
  7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.
- (e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.
1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.
  2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.
- (f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.
1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.
- (g) The following specification requirements apply to the 12 inch (300 mm) Pedestrian module only. All general specifications apply unless specifically superseded in this section.
1. Each pedestrian signal LED module shall provide the ability to actuate the solid upraised hand and the solid walking person on one 12 inch (300mm) section.
  2. Two (2) pedestrian sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man.

3. "Egg Crate" type sun shields are not permitted. All figures must be a minimum of 9 inches (225mm) in height and easily identified from a distance of 120-feet (36.6m).

### **PEDESTRIAN COUNTDOWN SIGNAL HEAD, LIGHT EMITTING DIODE.**

Add the following to Article 1078.02 of the Standard Specifications:

#### **General.**

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.
3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.
4. The module shall allow for consecutive cycles without displaying the steady Upraised Hand.
5. The module shall recognize preemption events and temporarily modify the crossing cycle accordingly.
6. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
7. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
8. The next cycle, following the preemption event, shall use the correct, initially programmed values.
9. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
10. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
11. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.
12. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.
13. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
14. In the event of a power outage, light output from the LED modules shall cease instantaneously.
15. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.
16. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

#### **Electrical.**

1. Maximum power consumption for LED modules is 29 watts.
2. The measured chromaticity shall remain unchanged over the input line voltage range listed of 80 VAC to 135 VAC.

**SIGNAL HEAD, BACKPLATE.**

Delete 1<sup>st</sup> sentence of Article 1078.03 of the Standard Specifications and add “All backplates shall be aluminum and louvered”.

**INDUCTIVE LOOP DETECTOR.**

Add the following to Article 1079.01 of the Standard Specifications:

Contracts requiring new cabinets shall provide for rack mounted detector amplifier cards. Detector amplifiers shall provide LCD displays with loop frequency, inductance, and change of inductance readings.

**ILLUMINATED SIGN, LIGHT EMITTING DIODE.**

Delete 2<sup>nd</sup> paragraph of Article 1084.01(a) and add “Mounting hardware shall be black polycarbonate or galvanized steel and similar to mounting Signal Head hardware and brackets specified herein and shall provide tool free access to the interior.

Add the following to Article 1084.01 (b) of the Standard Specifications:

The message shall be formed by rows of LEDs. The sign face shall be 24 inches (600 mm) by 24 inches (600 mm).

Add the following to Article 1084.01 of the Standard Specifications:

- (e) The light emitting diode (LED) blank out signs shall be manufactured by National Sign & Signal Company, or an approved equal and consist of a weatherproof housing and door, LEDs and transformers.

**ILLUMINATED STREET NAME SIGN**

The illuminate street name sign shall be as follows.

- (a) Description.

The LEDs shall be white in color and utilize InGaN or UV thermally efficient technology. The LED Light Engines shall be designed to fit inside a standard fluorescent illuminated street sign housing in lieu of fluorescent lamps and ballasts or a slim line type housing. The LED internally-illuminated street name sign shall display the designated street name clearly and legibly in the daylight hours without being energized and at night when energized. The sign assembly shall consist of a four-, six-, or eight-foot aluminum housing. White translucent 3M DG<sup>3</sup> reflective sheeting sign faces with the street name applied in 3M/Scotchlite Series 1177 or current 3M equivalent transparent green shall be installed in hinged doors on the side of the sign for easy access to perform general cleaning and maintenance operations. Illumination shall occur with LED Light Engine as specified.

(b) Environmental Requirements.

The LED lamp shall be rated for use in the ambient operating temperature range of -40 to +50°C (-40 to +122°F) for storage in the ambient temperature range of -40 to +75°C (-40 to +167°F).

(c) General Construction.

1. The LED Light Engine shall be a single, self-contained device, for installation in an existing street sign housing. The power supply must be designed to fit and mounted on the inside wall at one end of the street sign housing. The LED Light Engine shall be mounted within the inner top portion of the housing and no components of the light source shall sit between the sign faces.
2. The assembly and manufacturing processes of the LED Light Engine shall be designed to ensure that all LED and electronic components are adequately supported to withstand mechanical shocks and vibrations in compliance with the specifications of the ANSI, C136.31-2001 standards.

(d) Mechanical Construction.

1. The sign shall be constructed using a weatherproof, aluminum housing consisting of an extruded aluminum top with a minimum thickness of .140" x 10 3/4" deep (including the drip edge). The extruded aluminum bottom is .094" thick x 5 7/8" deep. The ends of the housing shall be cast aluminum with a minimum thickness of .250". A six-foot sign shall be 72 5/8" long and 22 5/16" tall and not weigh more than 77 pounds. An eight-foot sign shall be 96 5/8" long and 22 5/16" tall and not weigh more than 92 pounds. All corners are continuous TIG (Tungsten Inert Gas) welded to provide a weatherproof seal around the entire housing.
2. The door shall be constructed of extruded aluminum. Two corners are continuous TIG welded with the other two screwed together to make one side of the door removable for installation of the sign face. The door is fastened to the housing on the bottom by a full length, .040" x 1 1/8" open stainless steel hinge. The door shall be held secure onto a 1" wide by 5/32" thick neoprene gasket by three (six total for two-way sign) quarter-turn fasteners to form a watertight seal between the door and the housing.
3. The sign face shall be constructed of .125" white translucent polycarbonate. The letters shall be 8" upper case and 6" lower case. The sign face legend background shall consist of 3M/Scotchlite Series 4090T or current equivalent 3M translucent DG<sup>3</sup> white VIP (Visual Impact Performance) diamond grade sheeting (ATSM Type 9) and 3M/Scotchlite Series 1177 or current 3M equivalent transparent green acrylic EC (electronic cut-able) film applied to the front of the sign face. The legend shall be framed by a white polycarbonate border. A logo symbol and/or name of the community may be included with approval of the Engineer.
4. All surfaces of the sign shall be etched and primed in accordance to industry standards before receiving appropriate color coats of industrial enamel.
5. All fasteners and hardware shall be corrosion resistant stainless steel. No tools are required for routine maintenance.



6. All wiring shall be secured by insulated wire compression nuts.
7. A wire entrance junction box shall be supplied with the sign assembly. The box may be supplied mounted to the exterior or interior of the sign and provide a weather tight seal.
8. A photoelectric switch shall be mounted in the control cabinet to control lighting functions for day and night display. Each sign shall be individually fused.
9. Brackets and Mounting: LED internally-illuminated street name signs will be factory drilled to accommodate mast arm two-point support assembly mounting brackets.

(e) Electrical.

1. Photocell shall be rated 105-305V, turn on at 1.5 fcs. with a 3-5 second delay. A manufacturer's warranty of six (6) years shall be provided. Power consumption shall be no greater than 1 watt at 120V.
2. The LED Light Engine shall operate from a 60 +/- 3 cycle AC line power over a voltage range of 80 to 135 Vac rms. Fluctuations in line voltage over the range of 80 to 135 Vac shall not affect luminous intensity by more than +/- 10%.
3. Total harmonic distortion induced into the AC power line by the LED Light Engine, operated at a nominal operating voltage, and at a temperature of +25°C (+77°F), shall not exceed 20%.
4. The LED Light Engine shall be cycled ON and OFF with a photocell as shown on the detail sheet and shall not exceed the following maximum power values:

|             |       |
|-------------|-------|
| 4-Foot Sign | 60 W  |
| 6-Foot Sign | 90 W  |
| 8-Foot Sign | 120 W |

The signs shall not be energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptable power source (UPS). The signs shall be connected to the generator or UPS bypass circuitry.

(f) Photometric Requirements.

1. The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions defined in Environmental Requirements and Wattage Sections shall be of a minimum value of 100 cd/m<sup>2</sup>.
2. The manufacturer shall make available independent laboratory test results to verify compliance to Voltage Range and Luminous Intensity Distribution Sections.
3. Twelve (12) 1.25 watt LED units shall be mounted on 1-inch x 22-inch metal cone printed circuit boards (MCPCB). The viewing angle shall be 120 degrees. LED shall have a color temperature of 5200k nominal, CRI of 80 with a life expectancy of 75,000 hrs.

(g) Quality Assurance.

The LED Light Engine shall be manufactured in accordance with a vendor quality assurance (QA) program. The production QA shall include statistically controlled routine tests to ensure minimum performance levels of the LED Light Engine build to meet this specification. QA process and test result documentations shall be kept on file for a minimum period of seven (7) years. The LED Light Engine that does not satisfy the production QA testing performance requirements shall not be labeled, advertised, or sold as conforming to these specifications. Each LED Light Engine shall be identified by a manufacturer's serial number for warranty purposes. LED Light Engines shall be replaced or repaired if they fail to function as intended due to workmanship or material defects within the first sixty (60) months from the date of acceptance. LED Light Engines that exhibit luminous intensities less than the minimum value specified in Photometric Section within the first thirty-six (36) months from the date of acceptance shall be replaced or repaired.

**TEMPORARY SHEET PILING**

Effective: September 2, 1994

Revised: January 1, 2007

Description. This work shall consist of furnishing, driving, adjusting for stage construction when required and subsequent removal of the sheet piling according to the dimensions and details shown on the plans and according to the applicable portions of Section 512 of the Standard Specifications.

This work shall also include furnishing, installing and subsequent removal of all miscellaneous steel shapes, plates and connecting hardware when required to attach the sheeting to an existing substructure unit and/or to facilitate stage construction.

General. The Contractor may propose other means of supporting the sides of the excavation provided they are done so at no extra cost to the department. If the Contractor elects to vary from the design requirements shown on the plans, the revised design calculations and details shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Material. The sheet piling shall be made of steel and may be new or used material, at the option of the Contractor. The sheet piling shall have a minimum section modulus as shown on the plans or in the approved Contractor's alternate design. The sheeting shall have a minimum yield strength of 38.5 ksi (265 MPa) unless otherwise specified. The sheeting, used by the Contractor, shall be identifiable and in good condition free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer's approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor's expense.

Construction. The Contractor shall verify locations of all underground utilities before driving any sheet piling. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design.

The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related excavation. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Department prior to allowing excavation adjacent to the sheet piling in question. The Contractor shall not excavate below the maximum excavation line shown on the plans without the prior permission of the Engineer. The sheet piling shall remain in place until the Engineer determines it is no longer required.

The sheet piling shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the sheet piling leaving the remainder in place. The remaining sheet piling shall be a minimum of 12 in. (300 mm) below the finished grade or as directed by the Engineer. Removed sheet piling shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where it's presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven through or around with normal driving procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary sheet piling will be measured for payment in place in square feet (square meter). Any temporary sheet piling cut off, left in place, or driven to dimensions other than those shown on the contract plans without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's expense.

If the Contractor is unable to drive the sheeting to the specified tip elevation(s) and can demonstrate that any further effort to drive it would only result in damaging the sheeting, then the Contractor shall be paid based on the plan quantity of temporary sheeting involved. However, no additional payment will be made for any walers, bracing, or other supplement to the temporary sheet piling, which may be required as a result of the re-evaluation in order to insure the original design intent was met.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for TEMPORARY SHEET PILING.

Payment for any excavation performed in conjunction with this work will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

## **PIPE UNDERDRAINS FOR STRUCTURES**

Effective: May 17, 2000

Revised: January 22, 2010

Description. This work shall consist of furnishing and installing a pipe underdrain system as shown on the plans, as specified herein, and as directed by the Engineer.

Materials. Materials shall meet the requirements as set forth below:

The perforated pipe underdrain shall be according to Article 601.02 of the Standard Specifications. Outlet pipes or pipes connecting to a separate storm sewer system shall not be perforated.

The drainage aggregate shall be a combination of one or more of the following gradations, FA1, FA2, CA5, CA7, CA8, CA11, or CA13 thru 16, according to Sections 1003 and 1004 of the Standard Specifications.

The fabric surrounding the drainage aggregate shall be Geotechnical Fabric for French Drains according to Article 1080.05 of the Standard Specifications.

Construction Requirements. All work shall be according to the applicable requirements of Section 601 of the Standard Specifications except as modified below.

The pipe underdrains shall consist of a perforated pipe drain situated at the bottom of an area of drainage aggregate wrapped completely in geotechnical fabric and shall be installed to the lines and gradients as shown on the plans.

Method of Measurement. Pipe Underdrains for Structures shall be measured for payment in feet (meters), in place. Measurement shall be along the centerline of the pipe underdrains. All connectors, outlet pipes, elbows, and all other miscellaneous items shall be included in the measurement. Concrete headwalls shall be included in the cost of Pipe Underdrains for Structures, but shall not be included in the measurement for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for PIPE UNDERDRAINS FOR STRUCTURES of the diameter specified. Furnishing and installation of the drainage aggregate, geotechnical fabric, forming holes in structural elements and any excavation required, will not be paid for separately, but shall be included in the cost of the pipe underdrains for structures.

### **POROUS GRANULAR EMBANKMENT, SPECIAL**

Effective: September 28, 2005

Revised: November 14, 2008

Description. This work shall consist of furnishing and placing porous granular embankment special material as detailed on the plans, according to Section 207 except as modified herein.

Materials. The gradation of the porous granular material may be any of the following CA 8 thru CA 18, FA 1 thru FA 4, FA 7 thru FA 9, and FA 20 according to Articles 1003 and 1004.

Construction. The porous granular embankment special shall be installed according to Section 207, except that it shall be uncompacted.

Basis of Payment. This work will be paid for at the contract unit price per Cubic Yard (Cubic Meter) for POROUS GRANULAR EMBANKMENT, SPECIAL.

### **DEMOLITION PLANS FOR REMOVAL OF EXISTING STRUCTURES**

Effective: September 5, 2007

Add to the beginning of Article 501.02 of the Standard Specifications.

“The Contractor shall submit a demolition plan to the Engineer for approval, detailing the proposed methods of demolition and the amount, location(s) and type(s) of equipment to be used. With the exception of removal of single box culverts, for work adjacent to or over an active roadway, railroad or navigable waterway, the demolition plan shall include an assessment of the structure’s condition and an evaluation of the structure’s strength and stability during demolition and shall be sealed by an Illinois Licensed Structural Engineer.”

## **PILING**

Effective: May 11, 2009

Revised: January 22, 2010

Revise Article 512.04(a) of the Standard Specifications to read:

“(a) Splicing. Splicing of metal shell piles shall be as follows.

- (1) Planned Splices. Planned field or shop splices may be used when allowed per Article 512.10 or when the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3 m). The location of planned splices shall be approved by the Engineer and located to minimize the chance they will occur within the 10 ft (3 m) below the base of the footing, abutment, or pier.
- (2) Unplanned Splices. Unplanned field splices shall be used as required to furnish lengths beyond those specified in Article 512.16. The length of additional segments shall be specified by the Engineer.”

Revise Article 512.05(a) of the Standard Specifications to read:

“(a) Splicing. Splicing of steel piles shall be as follows.

- (1) Planned Splices. Planned field or shop splices may be used when allowed per Article 512.10 or when the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3 m). The location of planned splices shall be approved by the Engineer and located to minimize the chance they will occur within the 10 ft (3 m) below the base of the footing, abutment, or pier.
- (2) Unplanned Splices. Unplanned field splices shall be used as required to furnish lengths beyond those specified in Article 512.16. The length of additional segments shall be specified by the Engineer.”

Revise the first three paragraphs of Article 512.10 of the Standard Specifications to read:

“**512.10 Driving Equipment.** The equipment for driving piles shall be adequate for driving piles at least 10 ft (3 m) longer than the longest estimated pile length specified in the contract plans without splicing, unless the estimated pile length exceeds 55 ft (17 m) or prevented by vertical clearance restrictions. The use of shorter length equipment or the use of preplanned splices (necessitated by estimated pile lengths exceeding 55 ft (17 m) or vertical clearance restrictions) shall meet the approval of the Engineer. The equipment for driving piles shall be according to the following.

- (a) Hammers. Piles shall be driven with an impact hammer such as a drop, steam/air, hydraulic, or diesel.

The driving system selected by the Contractor shall not result in damage to the pile. The impact hammer shall be capable of being operated at an energy which will maintain a pile penetration rate between 1 and 10 blows per 1 in. (25 mm) when the nominal driven bearing of the pile approaches the nominal required bearing.

For hammer selection purposes, the minimum and maximum hammer energy necessary to achieve these penetrations may be estimated as follows.

$$E \geq \frac{32.90 R_N}{F_{eff}} \quad (\text{English})$$

$$E \leq \frac{65.80 R_N}{F_{eff}} \quad (\text{English})$$

$$E \geq \frac{10.00 R_N}{F_{eff}} \quad (\text{metric})$$

$$E \leq \frac{20.00 R_N}{F_{eff}} \quad (\text{metric})$$

Where:

- $R_N$  = Nominal required bearing in kips (kN)
- $E$  = Energy developed by the hammer per blow in ft lb (J)
- $F_{eff}$  = Hammer efficiency factor according to Article 512.14.”

Add the following sentence to the beginning of the fourth paragraph of Article 512.11 of the Standard Specifications:

“Except as required to satisfy the minimum tip elevations required in 512.11(b) above, piles are not required to be driven more than one additional foot (300 mm) after the nominal driven bearing equals or exceeds the nominal required bearing; more than three additional inches (75 mm) after the nominal driven bearing exceeds 110 percent of the nominal required bearing; or more than one additional inch (25 mm) after the nominal driven bearing exceeds 150 percent of the nominal required bearing.”

Revise the first paragraph of Article 512.14 of the Standard Specifications to read:

**“512.14 Determination of Nominal Driven Bearing.** The nominal driven bearing of each pile shall be determined by the WSDOT formula as follows.

$$R_{NDB} = \frac{6.6 F_{eff} E \ln(10N_b)}{1000} \quad (\text{English})$$

$$R_{NDB} = \frac{21.7 F_{eff} E \ln(10N_b)}{1000} \quad (\text{metric})$$

Where:

- $R_{NDB}$  = Nominal driven bearing of the pile in kips (kN)  
 $N_b$  = Number of hammer blows per inch (25 mm) of pile penetration  
 $E$  = Energy developed by the hammer per blow in ft lb (J)  
 $F_{eff}$  = Hammer efficiency factor taken as:  
0.55 for air/steam hammers  
0.47 for open-ended diesel hammers and steel piles or metal shell piles  
0.37 for open-ended diesel hammers and concrete or timber piles  
0.35 for closed-ended diesel hammers  
0.28 for drop hammers”

Add the following to Article 512.18 of the Standard Specifications.

“(h) When the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3m), additional field splices (for metal shell and steel piles) required to provide the lengths specified in Article 512.16 will be paid for according to Article 109.04.”

#### **FREEZE-THAW AGGREGATES FOR CONCRETE SUPERSTRUCTURES POURED ON GRADE**

Effective: April 30, 2010

Revise the first sentence of Article 1004.029(f) to read as follows.

“When coarse aggregate is used to produce portland cement concrete for base course, base course widening, pavement, driveway pavement, sidewalk, shoulders, curb, gutter, combination curb and gutter, median, paved ditch, concrete superstructures on grade such as bridge approach slabs, or their repair using concrete, the gradation permitted will be determined from the results of the Department’s Freeze-Thaw Test (Illinois Modified AASHTO T161).”

#### **ALKALI-SILICA REACTION FOR CAST-IN-PLACE CONCRETE (BDE)**

Effective: August 1, 2007

Revised: January 1, 2009

Description. This special provision is intended to reduce the risk of a deleterious alkali-silica reaction in concrete exposed to humid or wet conditions. The special provision is not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate or sodium formate. The special provision shall not apply to the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy. The special provision shall also not apply to precast products or precast prestressed products.

Aggregate Expansion Values. Each coarse and fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department’s Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will be assigned to limestone or dolomite coarse aggregates and 0.03 percent to limestone or dolomite fine aggregates (manufactured stone sand); however the Department reserves the right to perform the ASTM C 1260 test.

Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

| AGGREGATE GROUPS   |  |                 |           |
|--|--|-----------------|-----------|
| Coarse Aggregate or<br>Coarse Aggregate Blend<br>ASTM C 1260 Expansion | Fine Aggregate or<br>Fine Aggregate Blend<br>ASTM C 1260 Expansion |                 |           |
|  | ≤ 0.16%  | > 0.16% - 0.27% | > 0.27%   |
| ≤ 0.16%  | Group I  | Group II        | Group III |
| > 0.16% - 0.27%  | Group II   | Group II        | Group III |
| > 0.27%  | Group III  | Group III       | Group IV  |

Mixture Options. Based upon the aggregate group, the following mixture options shall be used; however, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silica reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

- Group I - Mixture options are not applicable. Use any cement or finely divided mineral.
- Group II - Mixture options 1, 2, 3, 4, or 5 shall be used.
- Group III - Mixture options 1, 2 and 3 combined, 4, or 5 shall be used.
- Group IV - Mixture options 1, 2 and 4 combined, or 5 shall be used.

For Class PP-3 concrete the mixture options are not applicable, and any cement may be used with the specified finely divided minerals.

- a) Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used.

When a coarse or fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;  
 A, B, C...= expansion value for that aggregate.

- b) Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow. The replacement ratio is defined as “finely divided mineral:portland cement”.
  - 1) Class F Fly Ash. For Class PV, BS, MS, DS, SC, and SI concrete and cement aggregate mixture II (CAM II), Class F fly ash shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.
  - 2) Class C Fly Ash. For Class PV, MS, SC, and SI Concrete, Class C fly ash with 18 percent to less than 26.5 percent calcium oxide content, and less than 2.0 percent loss on ignition, shall replace 20 percent of the portland cement at a minimum replacement ratio of 1:1; or at a minimum replacement ratio of 1.25:1 if the loss on ignition is 2.0 percent or greater. Class C fly ash with less than 18 percent calcium oxide content shall replace 20 percent of the portland cement at a minimum replacement ratio of 1.25:1.



For Class PP-1, RR, BS, and DS concrete and CAM II, Class C fly ash with less than 26.5 percent calcium oxide content shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

- 3) Ground Granulated Blast-Furnace Slag. For Class PV, BS, MS, SI, DS, and SC concrete, ground granulated blast-furnace slag shall replace 25 percent of the portland cement at a minimum replacement ratio of 1:1.

For Class PP-1 and RR concrete, ground granulated blast-furnace slag shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

For Class PP-2, ground granulated blast-furnace slag shall replace 25 to 30 percent of the portland cement at a minimum replacement ratio of 1:1.

- 4) Microsilica or High Reactivity Metakaolin. Microsilica solids or high reactivity metakaolin shall be added to the mixture at a minimum 25 lb/cu yd (15 kg/cu m) or 27 lb/cu yd (16 kg/cu m) respectively.
- c) Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.60 percent. When aggregate in Group II is involved, any finely divided mineral may be used with a portland cement.
- d) Mixture Option 4. The cement used shall have a maximum total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.45 percent. When aggregate in Group II or III is involved, any finely divided mineral may be used with a portland cement.
- e) Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is  $\leq 0.16$  percent when performed on the aggregate in the concrete mixture with the highest ASTM C 1260 test result. The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. For latex concrete, the ASTM C 1567 test shall be performed without the latex. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ), a new ASTM C 1567 test will not be required.

Testing. If an individual aggregate has an ASTM C 1260 expansion value  $> 0.16$  percent, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The ASTM C 1293 test shall be performed with Type I or II cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container or wick of absorbent material, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 or 1567 test result. The Engineer will not accept the result if the precision and bias for the test methods are not met.

The laboratory performing the ASTM C 1567 test shall either be accredited by the AASHTO Materials Reference Laboratory (AMRL) for ASTM C 227 under Portland Cement Concrete or Aggregate; or shall be inspected for Hydraulic Cement - Physical Tests by the Cement and Concrete Reference Laboratory (CCRL) and shall be approved by the Department. The laboratory performing the ASTM C 1293 test shall be inspected for Portland Cement Concrete by CCRL and shall be approved by the Department.

**ALKALI-SILICA REACTION FOR PRECAST AND PRECAST PRESTRESSED CONCRETE (BDE)**

Effective: January 1, 2009

Description. This special provision is intended to reduce the risk of a deleterious alkali-silica reaction in precast and precast prestressed concrete exposed to humid or wet conditions. The special provision is not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate or sodium formate. The special provision shall not apply to the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy. The special provision shall also not apply to cast-in-place concrete.

Aggregate Expansion Values. Each coarse and fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department's Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will be assigned to limestone or dolomite coarse aggregates and 0.03 percent to limestone or dolomite fine aggregates (manufactured stone sand); however the Department reserves the right to perform the ASTM C 1260 test.

Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

| AGGREGATE GROUPS   |  |                 |           |
|--|--|-----------------|-----------|
| Coarse Aggregate or<br>Coarse Aggregate Blend<br>ASTM C 1260 Expansion | Fine Aggregate or<br>Fine Aggregate Blend<br>ASTM C 1260 Expansion |                 |           |
|  | ≤ 0.16%  | > 0.16% - 0.27% | > 0.27%   |
| ≤ 0.16%  | Group I  | Group II        | Group III |
| > 0.16% - 0.27%  | Group II   | Group II        | Group III |
| > 0.27%  | Group III  | Group III       | Group IV  |

Mixture Options. Based upon the aggregate group, the following mixture options shall be used; however, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silica reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

- Group I - Mixture options are not applicable. Use any cement or finely divided mineral.
- Group II - Mixture options 1, 2, 3, 4, or 5 shall be used.

Group III - Mixture options 1, 2 and 3 combined, 4, or 5 shall be used.  
Group IV - Mixture options 1, 2 and 4 combined, or 5 shall be used.

- a) Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used.

When a coarse or fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;  
A, B, C... = expansion value for that aggregate.

- b) Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow. The replacement ratio is defined as “finely divided mineral:portland cement”.
- 1) Class F Fly Ash. For Class PC concrete, precast products, and PS concrete, Class F fly ash shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.
  - 2) Class C Fly Ash. For Class PC Concrete, precast products, and Class PS concrete, Class C fly ash with 18 percent to less than 26.5 percent calcium oxide content, and less than 2.0 percent loss on ignition, shall replace 20 percent of the portland cement at a minimum replacement ratio of 1:1; or at a minimum replacement ratio of 1.25:1 if the loss on ignition is 2.0 percent or greater. Class C fly ash with less than 18 percent calcium oxide content shall replace 20 percent of the portland cement at a minimum replacement ratio of 1.25:1.
  - 3) Ground Granulated Blast-Furnace Slag. For Class PC concrete, precast products, and Class PS concrete, ground granulated blast-furnace slag shall replace 25 percent of the portland cement at a minimum replacement ratio of 1:1.
  - 4) Microsilica or High Reactivity Metakaolin. Microsilica solids or high reactivity metakaolin shall be added to the mixture at a minimum 25 lb/cu yd (15 kg/cu m) or 27 lb/cu yd (16 kg/cu m) respectively.
- c) Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.60 percent. When aggregate in Group II is involved, any finely divided mineral may be used with a portland cement.
- d) Mixture Option 4. The cement used shall have a maximum total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.45 percent. When aggregate in Group II or III is involved, any finely divided mineral may be used with a portland cement.
- e) Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is  $\leq 0.16$  percent when performed on the aggregate in the concrete mixture with the highest ASTM C 1260 test result. The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ), a new ASTM C 1567 test will not be required.

Testing. If an individual aggregate has an ASTM C 1260 expansion value  $> 0.16$  percent, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The ASTM C 1293 test shall be performed with Type I or II cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container or wick of absorbent material, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 or 1567 test result. The Engineer will not accept the result if the precision and bias for the test methods are not met.

The laboratory performing the ASTM C 1567 test shall either be accredited by the AASHTO Materials Reference Laboratory (AMRL) for ASTM C 227 under Portland Cement or Aggregate; or shall be inspected for Hydraulic Cement - Physical Tests by the Cement and Concrete Reference Laboratory (CCRL) and shall be approved by the Department. The laboratory performing the ASTM C 1293 test shall be inspected for Portland Cement Concrete by CCRL and shall be approved by the Department.

## **APPROVAL OF PROPOSED BORROW AREAS, USE AREAS, AND/OR WASTE AREAS (BDE)**

Effective: November 1, 2008

Revised: November 1, 2010

Replace the first paragraph of Article 107.22 of the Standard Specifications with the following:

"All proposed borrow areas, including commercial borrow areas; use areas, including, but not limited to temporary access roads, detours, runarounds, plant sites, and staging and storage areas; and/or waste areas are to be designated by the Contractor to the Engineer and approved prior to their use. Such areas outside the State of Illinois shall be evaluated, at no additional cost to the Department, according to the requirements of the state in which the area lies; and approval by the authority within that state having jurisdiction for such areas shall be forwarded to the Engineer. Such areas within Illinois shall be evaluated as described herein.

A location map delineating the proposed borrow area, use area, and/or waste area shall be submitted to the Engineer for approval along with an agreement from the property owner granting the Department permission to enter the property and conduct cultural and biological resource reconnaissance surveys of the site for archaeological resources, threatened or endangered species or their designated essential habitat, wetlands, prairies, and savannahs. The type of location map submitted shall be a topographic map, a plat map, or a 7.5 minute quadrangle map. Submittals shall include the intended use of the site and provide sufficient detail for the Engineer to determine the extent of impacts to the site. The Engineer will initiate cultural and biological resource reconnaissance surveys of the site, as necessary, at no cost to the Contractor.

The Engineer will advise the Contractor of the expected time required to complete all surveys. If the proposed area is within 150 ft (45 m) of the highway right-of-way, a topographic map of the proposed site will be required as specified in Article 204.02.”

## **CEMENT (BDE)**

Effective: January 1, 2007

Revised: April 1, 2011

Revise Section 1001 of the Standard Specifications to read:

### **“SECTION 1001. CEMENT**

**1001.01 Cement Types.** Cement shall be according to the following.

- (a) Portland Cement. Acceptance of portland cement shall be according to the current Bureau of Materials and Physical Research’s Policy Memorandum, “Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants”.

Portland cement shall be according to AASHTO M 85, and shall meet the standard physical and chemical requirements. The Contractor has the option to use any type of portland cement listed in AASHTO M 85 unless a specific cement is specified for a construction item. Inorganic processing additions shall be limited to granulated blast-furnace slag according to the chemical requirements of AASHTO M 302, Class C or F fly ash according to the chemical requirements of AASHTO M 295, and cement kiln dust.

- (b) Portland-Pozzolan Cement. Acceptance of portland-pozzolan cement shall be according to the current Bureau of Materials and Physical Research’s Policy Memorandum, “Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants”.

Portland-pozzolan cement shall be according to AASHTO M 240 and shall meet the standard physical and chemical requirements. The Contractor has the option to use portland-pozzolan cement unless a specific cement is specified for a construction item. Inorganic processing additions shall be limited to granulated blast-furnace slag according to the chemical requirements of AASHTO M 302, Class C or F fly ash according to the chemical requirements of AASHTO M 295, and cement kiln dust. The pozzolan constituent for Type IP using Class F fly ash shall be a maximum of 25 percent of the weight (mass) of the portland-pozzolan cement. The pozzolan constituent for Type IP using Class C fly ash shall be a maximum of 30 percent of the weight (mass) of the portland-pozzolan cement. The pozzolan constituent for Type IP using microsilica or high-reactivity metakaolin shall be a maximum of ten percent. The pozzolan constituent for Type IP using other materials shall have the approval of the Engineer.

Portland-pozzolan cement may be used in concrete mixtures when the air temperature is below 40 °F (4 °C), but the Engineer may request a trial batch of the concrete mixture to show the mix design strength requirement will be met.

- (c) Portland Blast-Furnace Slag Cement. Acceptance of portland blast-furnace slag cement shall be according to the current Bureau of Materials and Physical Research’s Policy Memorandum, “Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants”.

Portland blast-furnace slag cement shall be according to AASHTO M 240 and shall meet the standard physical and chemical requirements. The Contractor has the option to use portland blast-furnace slag cement unless a specific cement is specified for a construction item. Inorganic processing additions shall be limited to granulated blast-furnace slag according to the chemical requirements of AASHTO M 302, Class C or F fly ash according to the chemical requirements of AASHTO M 295, and cement kiln dust. The blast-furnace slag constituent for Type IS shall be a maximum of 35 percent of the weight (mass) of the portland blast-furnace slag cement.

Portland blast-furnace slag cement may be used in concrete mixtures when the air temperature is below 40 °F (4 °C), but the Engineer may request a trial batch of the concrete mixture to show the mix design strength requirement will be met.

(d) **Rapid Hardening Cement.** Rapid hardening cement shall be used according to Article 1020.04 or when approved by the Engineer. The cement shall be on the Department's current "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs", and shall be according to the following.

- (1) The cement shall have a maximum final set of 25 minutes, according to Illinois Modified AASHTO T 131.
- (2) The cement shall have a minimum compressive strength of 2000 psi (13,800 kPa) at 3.0 hours, 3200 psi (22,100 kPa) at 6.0 hours, and 4000 psi (27,600 kPa) at 24.0 hours, according to Illinois Modified AASHTO T 106.
- (3) The cement shall have a maximum drying shrinkage of 0.050 percent at seven days, according to Illinois Modified ASTM C 596.
- (4) The cement shall have a maximum expansion of 0.020 percent at 14 days, according to Illinois Modified ASTM C 1038.
- (5) The cement shall have a minimum 80 percent relative dynamic modulus of elasticity; and shall not have a weight (mass) gain in excess of 0.15 percent or a weight (mass) loss in excess of 1.0 percent, after 100 cycles, according to Illinois Modified AASHTO T 161, Procedure B.

(e) **Calcium Aluminate Cement.** Calcium aluminate cement shall be used according to Article 1020.04 or when approved by the Engineer. The cement shall meet the standard physical requirements for Type I cement according to AASHTO M 85, except the time of setting shall not apply. The chemical requirements shall be determined according to AASHTO T 105 and shall be as follows: minimum 38 percent aluminum oxide ( $Al_2O_3$ ), maximum 42 percent calcium oxide (CaO), maximum 1 percent magnesium oxide (MgO), maximum 0.4 percent sulfur trioxide ( $SO_3$ ), maximum 1 percent loss on ignition, and maximum 3.5 percent insoluble residue.

**1001.02 Uniformity of Color.** Cement contained in single loads or in shipments of several loads to the same project shall not have visible differences in color.

**1001.03 Mixing Brands and Types.** Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall not be mixed or used alternately in the same item of construction unless approved by the Engineer.

**1001.04 Storage.** Cement shall be stored and protected against damage, such as dampness which may cause partial set or hardened lumps.

Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall be kept separate.”

## **CONCRETE ADMIXTURES (BDE)**

Effective: January 1, 2003

Revised: April 1, 2009

Replace the first paragraph of Article 1020.05(b) of the Standard Specifications to read:

“(b) Admixtures. The use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted when approved by the Engineer. Admixture dosages shall result in the mixture meeting the specified plastic and hardened properties. The Department will maintain an Approved List of Corrosion Inhibitors. Corrosion inhibitor dosage rates shall be according to Article 1020.05(b)(12). The Department will also maintain an Approved List of Concrete Admixtures, and an admixture technical representative shall be consulted when determining an admixture dosage from this list. The dosage shall be within the range indicated on the approved list unless the influence by other admixtures, jobsite conditions (such as a very short haul time), or other circumstances warrant a dosage outside the range. The Engineer shall be notified when a dosage is proposed outside the range. To determine an admixture dosage, air temperature, concrete temperature, cement source and quantity, finely divided mineral sources(s) and quantity, influence of other admixtures, haul time, placement conditions, and other factors as appropriate shall be considered. The Engineer may request the Contractor to have a batch of concrete mixed in the lab or field to verify the admixture dosage is correct. An admixture dosage or combination of admixture dosages shall not delay the initial set of concrete by more than one hour. When a retarding admixture is required or appropriate for a bridge deck or bridge deck overlay pour, the initial set time shall be delayed until the deflections due to the concrete dead load are no longer a concern for inducing cracks in the completed work. However, a retarding admixture shall not be used to further extend the pour time and justify the alteration of a bridge deck pour sequence.

When determining water in admixtures for water/cement ratio, the Contractor shall calculate 70 percent of the admixture dosage as water, except a value of 50 percent shall be used for a latex admixture used in bridge deck latex concrete overlays.”

Revise Section 1021 of the Standard Specifications to read:

### **“SECTION 1021. CONCRETE ADMIXTURES**

**1021.01 General.** Admixtures shall be furnished in liquid form ready for use. The admixtures shall be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer and trade name of the material. Containers shall be readily identifiable as to manufacturer and trade name of the material they contain.

Corrosion inhibitors will be maintained on the Department's Approved List of Corrosion Inhibitors. All other concrete admixture products will be maintained on the Department's Approved List of Concrete Admixtures. For the admixture submittal, a report prepared by an independent laboratory accredited by the AASHTO Materials Reference Laboratory (AMRL) for Portland Cement Concrete shall be provided.

The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications. However, for corrosion inhibitors the ASTM G 109 test information specified in ASTM C 1582 is not required to be from and independent lab. All other information in ASTM C 1582 shall be from and independent lab.

Tests shall be conducted using materials and methods specified on a "test" concrete and a "reference" concrete, together with a certification that no changes have been made in the formulation of the material since the performance of the tests. Per the manufacturer's option, the cement content for all required tests shall either be according to applicable specifications or 5.65 cwt/cu yd (335 kg/cu m). Compressive strength test results for six months and one year will not be required.

Prior to the approval of an admixture, the Engineer reserves the right to request a sample for testing. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 5.65 cwt/cu yd (335 kg/cu m). For freeze-thaw testing, the Department will perform the test according to AASHTO T 161, Procedure B. The flexural strength test will be performed according to AASHTO T 177. If the Engineer decides to test the admixture, the manufacturer shall submit AASHTO T 197 water content and set time test results on the standard cement used by the Department. The test and reference concrete mixture shall contain a cement content of 5.65 cwt/cu yd (335 kg/cu m). The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by AASHTO.

The manufacturer shall include in the submittal the following admixture information: the manufacturing range for specific gravity, the midpoint and manufacturing range for residue by oven drying, and the manufacturing range for pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

For air-entraining admixtures according to Article 1021.02, the specific gravity allowable manufacturing range shall be established by the manufacturer and the test method shall be according to ASTM C 494. For residue by oven drying and pH, the allowable manufacturing range and test methods shall be according to ASTM C 260.

For admixtures according to Articles 1021.03, 1021.04, 1021.05, 1021.06, and 1021.07, the pH allowable manufacturing range shall be established by the manufacturer and the test method shall be according to ASTM E 70. For specific gravity and residue by oven drying, the allowable manufacturing range and test methods shall be according to ASTM C 494.

When test results are more than seven years old, the manufacturer shall re-submit the infrared spectrophotometer trace and the report prepared by an independent laboratory accredited by AASHTO.

All admixtures, except chloride-based accelerators, shall contain a maximum of 0.3 percent chloride by weight (mass).

Random field samples may be taken by the Department to verify an admixture meets specification. A split sample will be provided to the manufacturer if requested. Admixtures that do not meet specification requirements or an allowable manufacturing range established by the manufacturer shall be replaced with new material.



**1021.02 Air-Entraining Admixtures.** Air-entraining admixtures shall be according to AASHTO M 154.

**1021.03 Retarding and Water-Reducing Admixtures.** The admixture shall be according to the following.

- (a) The retarding admixture shall be according to AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).
- (b) The water-reducing admixture shall be according to AASHTO M 194, Type A.
- (c) The high range water-reducing admixture shall be according to AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).

**1021.04 Accelerating Admixtures.** The admixture shall be according to AASHTO M 194, Type C (accelerating) or Type E (water reducing and accelerating).

**1021.05 Self-Consolidating Admixtures.** The self-consolidating admixture system shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a concrete mixture that can flow around reinforcement and consolidate under its own weight without additional effort and without segregation.

The high range water-reducing admixture shall be according to AASHTO M 194, Type F.

The viscosity modifying admixture shall be according to ASTM C 494, Type S (specific performance).

**1021.06 Rheology-Controlling Admixture.** The rheology-controlling admixture shall be capable of producing a concrete mixture with a lower yield stress that will consolidate easier for slipform applications used by the Contractor. The rheology-controlling admixture shall be according to ASTM C 494, Type S (specific performance).

**1021.07 Corrosion Inhibitor.** The corrosion inhibitor shall be according to one of the following.

- (a) Calcium Nitrite. The corrosion inhibitor shall contain a minimum 30 percent calcium nitrite by weight (mass) of solution, and shall comply with the requirements of AASHTO M 194, Type C (accelerating).
- (b) Other Materials. The corrosion inhibitor shall be according to ASTM C 1582.”

## **CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)**

Effective: June 1, 2010

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment's respective horsepower range shall be retrofitted:

| Effective Dates            | Horsepower Range | Model Year |
|----------------------------|------------------|------------|
| June 1, 2010 <sup>1/</sup> | 600-749          | 2002       |
|                            | 750 and up       | 2006       |
| June 1, 2011 <sup>2/</sup> | 100-299          | 2003       |
|                            | 300-599          | 2001       |
|                            | 600-749          | 2002       |
|                            | 750 and up       | 2006       |
| June 1, 2012 <sup>2/</sup> | 50-99            | 2004       |
|                            | 100-299          | 2003       |
|                            | 300-599          | 2001       |
|                            | 600-749          | 2002       |
|                            | 750 and up       | 2006       |

- 1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.  
 2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/otag/retrofit/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verde/verdev.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices.

The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices 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. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

#### **Diesel Retrofit Deficiency Deduction**

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

#### **CONSTRUCTION AIR QUALITY - DIESEL VEHICLE EMISSIONS CONTROL (BDE)**

Effective: April 1, 2009

Revised: July 1, 2009

Diesel Vehicle Emissions Control. The reduction of construction air emissions shall be accomplished by using cleaner burning diesel fuel. The term "equipment" refers to any and all diesel fuel powered devices rated at 50 hp and above, to be used on the project site in excess of seven calendar days over the course of the construction period on the project site (including any "rental" equipment).

All equipment on the jobsite, with engine ratings of 50 hp and above, shall be required to: use Ultra Low Sulfur Diesel fuel (ULSD) exclusively (15 ppm sulfur content or less).

Diesel powered equipment in non-compliance will not be allowed to be used on the project site, and is also subject to a notice of non-compliance as outlined below.

The Contractor shall submit copies of monthly summary reports and include certified copies of the ULSD diesel fuel delivery slips for diesel fuel delivered to the jobsite for the reporting time period, noting the quantity of diesel fuel used.

If any diesel powered equipment is found to be in non-compliance with any portion of this specification, the Engineer will issue the Contractor a notice of non-compliance and identify an appropriate period of time, as outlined below under environmental deficiency deduction, in which to bring the equipment into compliance or remove it from the project site.

Any costs associated with bringing any diesel powered equipment into compliance with these diesel vehicle emissions controls 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. The Contractor's compliance with this notice and any associated regulations shall also not be grounds for a claim.

Environmental Deficiency Deduction. When the Engineer is notified, or determines that an environmental control deficiency exists, he/she will notify the Contractor in writing, and direct the Contractor to correct the deficiency within a specified time period. The specified time-period, which begins upon Contractor notification, will be from 1/2 hour to 24 hours long, based on the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge regarding the time period.

The deficiency will be based on lack of repair, maintenance and diesel vehicle emissions control.

If the Contractor fails to correct the deficiency within the specified time frame, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

If a Contractor or subcontractor accumulates three environmental deficiency deductions in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of contract time, waiver of penalties, or be grounds for any claim.

## **CONSTRUCTION AIR QUALITY - IDLING RESTRICTIONS (BDE)**

Effective: April 1, 2009

Idling Restrictions. The Contractor shall establish truck-staging areas for all diesel powered vehicles that are waiting to load or unload material at the jobsite. Staging areas shall be located where the diesel emissions from the equipment will have a minimum impact on adjacent sensitive receptors. The Department will review the selection of staging areas, whether within or outside the existing highway right-of-way, to avoid locations near sensitive areas or populations to the extent possible. Sensitive receptors include, but are not limited to, hospitals, schools, residences, motels, hotels, daycare facilities, elderly housing and convalescent facilities. Diesel powered engines shall also be located as far away as possible from fresh air intakes, air conditioners, and windows. The Engineer will approve staging areas before implementation.

Diesel powered vehicle operators may not cause or allow the motor vehicle, when it is not in motion, to idle for more than a total of 10 minutes within any 60 minute period, except under any of the following circumstances:

- 1) The motor vehicle has a gross vehicle weight rating of less than 8000 lb (3630 kg).
- 2) The motor vehicle idles while forced to remain motionless because of on-highway traffic, an official traffic control device or signal, or at the direction of a law enforcement official.
- 3) The motor vehicle idles when operating defrosters, heaters, air conditioners, or other equipment solely to prevent a safety or health emergency.
- 4) A police, fire, ambulance, public safety, other emergency or law enforcement motor vehicle, or any motor vehicle used in an emergency capacity, idles while in an emergency or training mode and not for the convenience of the vehicle operator.
- 5) The primary propulsion engine idles for maintenance, servicing, repairing, or diagnostic purposes if idling is necessary for such activity.
- 6) A motor vehicle idles as part of a government inspection to verify that all equipment is in good working order, provided idling is required as part of the inspection.
- 7) When idling of the motor vehicle is required to operate auxiliary equipment to accomplish the intended use of the vehicle (such as loading, unloading, mixing, or processing cargo; controlling cargo temperature; construction operations, lumbering operations; oil or gas well servicing; or farming operations), provided that this exemption does not apply when the vehicle is idling solely for cabin comfort or to operate non-essential equipment such as air conditioning, heating, microwave ovens, or televisions.
- 8) When the motor vehicle idles due to mechanical difficulties over which the operator has no control.
- 9) The outdoor temperature is less than 32 °F (0 °C) or greater than 80 °F (26 °C).

When the outdoor temperature is greater than or equal to 32 °F (0 °C) or less than or equal to 80 °F (26 °C), a person who operates a motor vehicle operating on diesel fuel shall not cause or allow the motor vehicle to idle for a period greater than 30 minutes in any 60 minute period while waiting to weigh, load, or unload cargo or freight, unless the vehicle is in a line of vehicles that regularly and periodically moves forward.

The above requirements do not prohibit the operation of an auxiliary power unit or generator set as an alternative to idling the main engine of a motor vehicle operating on diesel fuel.

Environmental Deficiency Deduction. When the Engineer is notified, or determines that an environmental control deficiency exists based on non-compliance with the idling restrictions, he/she will notify the Contractor, and direct the Contractor to correct the deficiency.

If the Contractor fails to correct the deficiency a monetary deduction will be imposed. The monetary deduction will be \$1,000.00 for each deficiency identified.

#### **DETERMINATION OF THICKNESS (BDE)**

Effective: April 1, 2009

Revise Articles 353.12 and 353.13 of the Standard Specifications to Articles 353.13 and 353.14 respectively.

Add the following Article to the Standard Specifications:

**“353.12 Tolerance in Thickness.** The thickness of base course pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction, bike paths, and individual locations less than 500 ft (150 m) long, will be evaluated. Temporary construction is defined as those areas constructed and removed under the same contract. If the base course cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course thickness.

The procedure described in Article 407.10(b) will be followed, except the option of correcting deficient pavement with additional lift(s) shall not apply.”

Revise Article 354.09 of the Standard Specifications to read:

**“354.09 Tolerance in Thickness.** The thickness of base course widening pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 3 ft (1 m) wide or 1000 ft (300 m) long, will be evaluated. Temporary construction is defined as those areas constructed and removed under the same contract. If the base course widening cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course widening thickness.

The procedure described in Article 407.10(b) will be followed, except:

- (a) The width of a unit shall be the width of the widening along one edge of the pavement.
- (b) The length of the unit shall be 1000 ft (300 m).
- (c) The option of correcting deficient pavement with additional lift(s) shall not apply.”

Revise Article 355.09 of the Standard Specifications to read:

**“355.09 Tolerance in Thickness.** The thickness of HMA base course pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 500 ft (150 m) long, will be evaluated according to Article 407.10(b). Temporary construction is defined as those areas constructed and removed under the same contract. If the base course cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course thickness.”

Revise Article 356.07 of the Standard Specifications to read:

**“356.07 Tolerance in Thickness.** The thickness of HMA base course widening pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 3 ft (1 m) wide or 1000 ft (300 m) long, will be evaluated according to Article 407.10(b) except, the width of a unit shall be the width of the widening along one edge of the pavement and the length of a unit shall be 1000 ft (300 m). Temporary locations are defined as those constructed and removed under the same contract. If the base course widening cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s) and subtract them from the measured core thickness to determine the base course widening thickness.”

Revise Article 407.10 of the Standard Specifications to read:

**“407.10 Tolerance in Thickness.** Determination of pavement thickness shall be performed after the pavement surface tests and corrective action have been completed according to Article 407.09. Pay adjustments made for pavement thickness will be in addition to and independent of those made for pavement smoothness. Pavement pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous pavement shall be evaluated with the following exclusions: temporary pavements; variable width pavements; radius returns; short lengths of contiguous pavements less than 500 ft (125 m) in length; and constant width portions of turn lanes less than 500 ft (125 m) in length. Temporary pavements are defined as pavements constructed and removed under the same contract.

The method described in Article 407.10(a), shall be used except for those pavements constructed in areas where access to side streets and entrances necessitates construction in segments less than 1000 ft (300 m). The method described in Article 407.10(b) shall be used in areas where access to side streets and entrances necessitates construction in segments less than 1000 ft (300 m).

(a) Percent Within Limits. The percent within limits (PWL) method shall be as follows.

- (1) Lots and Sublots. The pavement will be divided into approximately equal lots of not more than 5000 ft (1500 m) in length. When the length of a continuous strip of pavement is 500 ft (150 m) or greater but less than 5000 ft (1500 m), these short lengths of pavement, ramps, turn lanes, and other short sections of continuous pavement will be grouped together to form lots approximately 5000 ft (1500 m) in length. Short segments between structures will be measured continuously with the structure segments omitted. Each lot will be subdivided into ten equal sublots. The width of a subplot and lot will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.
- (2) Cores. Cores 2 in. (50 mm) in diameter shall be taken from the pavement by the Contractor, at locations selected by the Engineer. The exact location for each core will be selected at random, but will result in one core per subplot. Core locations will be specified prior to beginning the coring operations.

The Contractor and the Engineer shall witness the coring operations, as well as the measuring and recording of the core lengths. The cores will be measured with a device supplied by the Department immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples shall be disposed of according to Article 202.03.

Upon completion of each core, all water shall be removed from the hole and the hole then filled with a rapid hardening mortar or concrete. The material shall be mixed in a separate container, placed in the hole, consolidated by rodding, and struck-off flush with the adjacent pavement.

- (3) Deficient Sublot. When the length of the core in a subplot is deficient by more than ten percent of plan thickness, the Contractor may take three additional cores within that subplot at locations selected at random by the Engineer. If the Contractor chooses not to take additional cores, the pavement in that subplot shall be removed and replaced.

When the three additional cores are taken, the length of those cores will be averaged with the original core length. If the average shows the subplot to be deficient by ten percent or less, no additional action is necessary. If the average shows the subplot to be deficient by more than ten percent, the pavement in that subplot shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such deficient sublots to remain in place. For deficient sublots allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When a deficient subplot is removed and replaced, or additional lifts are placed, the corrected subplot shall be retested for thickness. The length of the new core taken in the subplot will be used in determining the PWL for the lot.

When a deficient subplot is left in place, and no additional lift(s) are placed, no payment will be made for the deficient subplot. The length of the original core taken in the subplot will be used in determining the PWL for the lot.

- (4) Deficient Lot. After addressing deficient sublots, the PWL for each lot will be determined. When the PWL of a lot is 60 percent or less, the pavement in that lot shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such deficient lots to remain in place. For deficient lots allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When a deficient lot is removed and replaced, or additional lifts are placed, the corrected lot shall be retested for thickness. The PWL for the lot will then be recalculated based upon the new cores; however, the pay factor for the lot shall be a maximum of 100 percent.

When a deficient lot is left in place, and no additional lift(s) are placed, the PWL for the lot will not be recalculated.

- (5) Right of Discovery. When the Engineer has reason to believe the random core selection process will not accurately represent the true conditions of the work, he/she may order additional cores. The additional cores shall be taken at specific locations determined by the Engineer. The Engineer will provide notice to the Contractor containing an explanation of the reasons for his/her action. The need for, and location of, additional cores will be determined prior to commencement of coring operations.

When the additional cores show the pavement to be deficient by more than ten percent of plan thickness, more additional cores shall be taken to determine the limits of the deficient pavement and that area shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such areas of deficient pavement to remain in place.



The area of deficient pavement will be defined using the length between two acceptable cores and the full width of the subplot. An acceptable core is a core with a length of at least 90 percent of plan thickness.

For deficient areas allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When an area of deficient pavement is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness.

When an area of deficient pavement is left in place, and no additional lift(s) are placed, no payment will be made for the deficient pavement.

When the additional cores show the pavement to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04.

(6) Profile Index Adjustment. After any area of pavement is removed and replaced or any additional lifts are placed, the corrected areas shall be retested for pavement smoothness and any necessary profile index adjustments and/or corrections will be made based on these final profile readings prior to retesting for thickness.

(7) Determination of PWL. The PWL for each lot will be determined as follows.

Definitions:

- $x_i$  = Individual values (core lengths) under consideration
- $n$  = Number of individual values under consideration (10 per lot)
- $\bar{x}$  = Average of the values under consideration
- LSL = Lower Specification Limit (98% of plan thickness)
- $Q_L$  = Lower Quality Index
- $s$  = Sample Standard Deviation
- PWL = Percent Within Limits

Determine  $\bar{x}$  for the lot to the nearest two decimal places.

Determine  $s$  for the lot to the nearest three decimal places using:

$$s = \sqrt{\frac{\sum(x_i - \bar{x})^2}{n - 1}} \quad \text{where} \quad \sum(x_i - \bar{x})^2 = (x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + \dots + (x_{10} - \bar{x})^2$$

Determine  $Q_L$  for the lot to the nearest two decimal places using:

$$Q_L = \frac{(\bar{x} - LSL)}{s}$$

Determine PWL for the lot using the  $Q_L$  and the following table. For  $Q_L$  values less than zero the value shown in the table must be subtracted from 100 to obtain PWL.

- (8) Pay Factors. The pay factor (PF) for each lot will be determined, to the nearest two decimal places, using:

$$PF \text{ (in percent)} = 55 + 0.5 (PWL)$$

If  $\bar{x}$  for a lot is less than the plan thickness, the maximum PF for that lot shall be 100 percent.

- (9) Payment. Payment of incentive or disincentive for pay items subject to the PWL method will be calculated using:

$$\text{Payment} = (((TPF/100)-1) \times CUP) \times (TOTPAVT - DEFPAVT)$$

TPF = Total Pay Factor

CUP = Contract Unit Price

TOTPAVT = Area of Pavement Subject to Coring

DEFPAVT = Area of Deficient Pavement

The TPF for the pavement shall be the average of the PF for all the lots; however, the TPF shall not exceed 102 percent.

Area of Deficient pavement (DEFPAVT) is defined as an area of pavement represented by a subplot deficient by more than ten percent which is left in place with no additional thickness added.

Area of Pavement Subject to Coring (TOTPAVT) is defined as those pavement areas included in lots for pavement thickness determination.

| PERCENT WITHIN LIMITS            |                             |                                  |                             |                                  |                             |                                  |                             |
|----------------------------------|-----------------------------|----------------------------------|-----------------------------|----------------------------------|-----------------------------|----------------------------------|-----------------------------|
| Quality Index (Q <sub>L</sub> )* | Percent Within Limits (PWL) | Quality Index (Q <sub>L</sub> )* | Percent Within Limits (PWL) | Quality Index (Q <sub>L</sub> )* | Percent Within Limits (PWL) | Quality Index (Q <sub>L</sub> )* | Percent Within Limits (PWL) |
| 0.00                             | 50.00                       | 0.40                             | 65.07                       | 0.80                             | 78.43                       | 1.20                             | 88.76                       |
| 0.01                             | 50.38                       | 0.41                             | 65.43                       | 0.81                             | 78.72                       | 1.21                             | 88.97                       |
| 0.02                             | 50.77                       | 0.42                             | 65.79                       | 0.82                             | 79.02                       | 1.22                             | 89.17                       |
| 0.03                             | 51.15                       | 0.43                             | 66.15                       | 0.83                             | 79.31                       | 1.23                             | 89.38                       |
| 0.04                             | 51.54                       | 0.44                             | 66.51                       | 0.84                             | 79.61                       | 1.24                             | 89.58                       |
| 0.05                             | 51.92                       | 0.45                             | 66.87                       | 0.85                             | 79.90                       | 1.25                             | 89.79                       |
| 0.06                             | 52.30                       | 0.46                             | 67.22                       | 0.86                             | 80.19                       | 1.26                             | 89.99                       |
| 0.07                             | 52.69                       | 0.47                             | 67.57                       | 0.87                             | 80.47                       | 1.27                             | 90.19                       |
| 0.08                             | 53.07                       | 0.48                             | 67.93                       | 0.88                             | 80.76                       | 1.28                             | 90.38                       |
| 0.09                             | 53.46                       | 0.49                             | 68.28                       | 0.89                             | 81.04                       | 1.29                             | 90.58                       |
| 0.10                             | 53.84                       | 0.50                             | 68.63                       | 0.90                             | 81.33                       | 1.30                             | 90.78                       |
| 0.11                             | 54.22                       | 0.51                             | 68.98                       | 0.91                             | 81.61                       | 1.31                             | 90.96                       |
| 0.12                             | 54.60                       | 0.52                             | 69.32                       | 0.92                             | 81.88                       | 1.32                             | 91.15                       |
| 0.13                             | 54.99                       | 0.53                             | 69.67                       | 0.93                             | 82.16                       | 1.33                             | 91.33                       |
| 0.14                             | 55.37                       | 0.54                             | 70.01                       | 0.94                             | 82.43                       | 1.34                             | 91.52                       |
| 0.15                             | 55.75                       | 0.55                             | 70.36                       | 0.95                             | 82.71                       | 1.35                             | 91.70                       |
| 0.16                             | 56.13                       | 0.56                             | 70.70                       | 0.96                             | 82.97                       | 1.36                             | 91.87                       |
| 0.17                             | 56.51                       | 0.57                             | 71.04                       | 0.97                             | 83.24                       | 1.37                             | 92.04                       |
| 0.18                             | 56.89                       | 0.58                             | 71.38                       | 0.98                             | 83.50                       | 1.38                             | 92.22                       |
| 0.19                             | 57.27                       | 0.59                             | 71.72                       | 0.99                             | 83.77                       | 1.39                             | 92.39                       |
| 0.20                             | 57.65                       | 0.60                             | 72.06                       | 1.00                             | 84.03                       | 1.40                             | 92.56                       |
| 0.21                             | 58.03                       | 0.61                             | 72.39                       | 1.01                             | 84.28                       | 1.41                             | 92.72                       |
| 0.22                             | 58.40                       | 0.62                             | 72.72                       | 1.02                             | 84.53                       | 1.42                             | 92.88                       |
| 0.23                             | 58.78                       | 0.63                             | 73.06                       | 1.03                             | 84.79                       | 1.43                             | 93.05                       |
| 0.24                             | 59.15                       | 0.64                             | 73.39                       | 1.04                             | 85.04                       | 1.44                             | 93.21                       |
| 0.25                             | 59.53                       | 0.65                             | 73.72                       | 1.05                             | 85.29                       | 1.45                             | 93.37                       |
| 0.26                             | 59.90                       | 0.66                             | 74.04                       | 1.06                             | 85.53                       | 1.46                             | 93.52                       |
| 0.27                             | 60.28                       | 0.67                             | 74.36                       | 1.07                             | 85.77                       | 1.47                             | 93.67                       |
| 0.28                             | 60.65                       | 0.68                             | 74.69                       | 1.08                             | 86.02                       | 1.48                             | 93.83                       |
| 0.29                             | 61.03                       | 0.69                             | 75.01                       | 1.09                             | 86.26                       | 1.49                             | 93.98                       |
| 0.30                             | 61.40                       | 0.70                             | 75.33                       | 1.10                             | 86.50                       | 1.50                             | 94.13                       |
| 0.31                             | 61.77                       | 0.71                             | 75.64                       | 1.11                             | 86.73                       | 1.51                             | 94.27                       |
| 0.32                             | 62.14                       | 0.72                             | 75.96                       | 1.12                             | 86.96                       | 1.52                             | 94.41                       |
| 0.33                             | 62.51                       | 0.73                             | 76.27                       | 1.13                             | 87.20                       | 1.53                             | 94.54                       |
| 0.34                             | 62.88                       | 0.74                             | 76.59                       | 1.14                             | 87.43                       | 1.54                             | 94.68                       |
| 0.35                             | 63.25                       | 0.75                             | 76.90                       | 1.15                             | 87.66                       | 1.55                             | 94.82                       |
| 0.36                             | 63.61                       | 0.76                             | 77.21                       | 1.16                             | 87.88                       | 1.56                             | 94.95                       |
| 0.37                             | 63.98                       | 0.77                             | 77.51                       | 1.17                             | 88.10                       | 1.57                             | 95.08                       |
| 0.38                             | 64.34                       | 0.78                             | 77.82                       | 1.18                             | 88.32                       | 1.58                             | 95.20                       |
| 0.39                             | 64.71                       | 0.79                             | 78.12                       | 1.19                             | 88.54                       | 1.59                             | 95.33                       |

\*For Q<sub>L</sub> values less than zero, subtract the table value from 100 to obtain PWL

| PERCENT WITHIN LIMITS (continued) |                             |                                  |                             |                                  |                             |
|-----------------------------------|-----------------------------|----------------------------------|-----------------------------|----------------------------------|-----------------------------|
| Quality Index (Q <sub>L</sub> )*  | Percent Within Limits (PWL) | Quality Index (Q <sub>L</sub> )* | Percent Within Limits (PWL) | Quality Index (Q <sub>L</sub> )* | Percent Within Limits (PWL) |
| 1.60                              | 95.46                       | 2.00                             | 98.83                       | 2.40                             | 99.89                       |
| 1.61                              | 95.58                       | 2.01                             | 98.88                       | 2.41                             | 99.90                       |
| 1.62                              | 95.70                       | 2.02                             | 98.92                       | 2.42                             | 99.91                       |
| 1.63                              | 95.81                       | 2.03                             | 98.97                       | 2.43                             | 99.91                       |
| 1.64                              | 95.93                       | 2.04                             | 99.01                       | 2.44                             | 99.92                       |
| 1.65                              | 96.05                       | 2.05                             | 99.06                       | 2.45                             | 99.93                       |
| 1.66                              | 96.16                       | 2.06                             | 99.10                       | 2.46                             | 99.94                       |
| 1.67                              | 96.27                       | 2.07                             | 99.14                       | 2.47                             | 99.94                       |
| 1.68                              | 96.37                       | 2.08                             | 99.18                       | 2.48                             | 99.95                       |
| 1.69                              | 96.48                       | 2.09                             | 99.22                       | 2.49                             | 99.95                       |
| 1.70                              | 96.59                       | 2.10                             | 99.26                       | 2.50                             | 99.96                       |
| 1.71                              | 96.69                       | 2.11                             | 99.29                       | 2.51                             | 99.96                       |
| 1.72                              | 96.78                       | 2.12                             | 99.32                       | 2.52                             | 99.97                       |
| 1.73                              | 96.88                       | 2.13                             | 99.36                       | 2.53                             | 99.97                       |
| 1.74                              | 96.97                       | 2.14                             | 99.39                       | 2.54                             | 99.98                       |
| 1.75                              | 97.07                       | 2.15                             | 99.42                       | 2.55                             | 99.98                       |
| 1.76                              | 97.16                       | 2.16                             | 99.45                       | 2.56                             | 99.98                       |
| 1.77                              | 97.25                       | 2.17                             | 99.48                       | 2.57                             | 99.98                       |
| 1.78                              | 97.33                       | 2.18                             | 99.50                       | 2.58                             | 99.99                       |
| 1.79                              | 97.42                       | 2.19                             | 99.53                       | 2.59                             | 99.99                       |
| 1.80                              | 97.51                       | 2.20                             | 99.56                       | 2.60                             | 99.99                       |
| 1.81                              | 97.59                       | 2.21                             | 99.58                       | 2.61                             | 99.99                       |
| 1.82                              | 97.67                       | 2.22                             | 99.61                       | 2.62                             | 99.99                       |
| 1.83                              | 97.75                       | 2.23                             | 99.63                       | 2.63                             | 100.00                      |
| 1.84                              | 97.83                       | 2.22                             | 99.66                       | 2.64                             | 100.00                      |
| 1.85                              | 97.91                       | 2.25                             | 99.68                       | ≥ 2.65                           | 100.00                      |
| 1.86                              | 97.98                       | 2.26                             | 99.70                       |                                  |                             |
| 1.87                              | 98.05                       | 2.27                             | 99.72                       |                                  |                             |
| 1.88                              | 98.11                       | 2.28                             | 99.73                       |                                  |                             |
| 1.89                              | 98.18                       | 2.29                             | 99.75                       |                                  |                             |
| 1.90                              | 98.25                       | 2.30                             | 99.77                       |                                  |                             |
| 1.91                              | 98.31                       | 2.31                             | 99.78                       |                                  |                             |
| 1.92                              | 98.37                       | 2.32                             | 99.80                       |                                  |                             |
| 1.93                              | 98.44                       | 2.33                             | 99.81                       |                                  |                             |
| 1.94                              | 98.50                       | 2.34                             | 99.83                       |                                  |                             |
| 1.95                              | 98.56                       | 2.35                             | 99.84                       |                                  |                             |
| 1.96                              | 98.61                       | 2.36                             | 99.85                       |                                  |                             |
| 1.97                              | 98.67                       | 2.37                             | 99.86                       |                                  |                             |
| 1.98                              | 98.72                       | 2.38                             | 99.87                       |                                  |                             |
| 1.99                              | 98.78                       | 2.39                             | 99.88                       |                                  |                             |

\*For Q<sub>L</sub> values less than zero, subtract the table value from 100 to obtain PWL

(b) Minimum Thickness. The minimum thickness method shall be as follows.

- (1) Length of Units. The length of a unit will be a continuous strip of pavement 500 ft (150 m) in length.
- (2) Width of Units. The width of a unit will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.

- (3) Thickness Measurements. Pavement thickness will be based on 2 in. (50 mm) diameter cores.

Cores shall be taken from the pavement by the Contractor at locations selected by the Engineer. When determining the thickness of a unit, one core shall be taken in each unit.

The Contractor and the Engineer shall witness the coring operations, as well as the measuring and recording of the cores. Core measurements will be determined immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples may be disposed of according to Article 202.03.

Upon completion of each core, all water shall be removed from the hole and the hole then filled with a rapid hardening mortar or concrete. The material shall be mixed in a separate container, placed in the hole, consolidated by rodding, and struck-off flush with the adjacent pavement.

- (4) Unit Deficient in Thickness. In considering any portion of the pavement that is deficient, the entire limits of the unit will be used in computing the deficiency or determining the remedial action required.
- (5) Thickness Equals or Exceeds Specified Thickness. When the thickness of a unit equals or exceeds the specified plan thickness, payment will be made at the contract unit price per square yard (square meter) for the specified thickness.
- (6) Thickness Deficient by Ten Percent or Less. When the thickness of a unit is less than the specified plan thickness by ten percent or less, a deficiency deduction will be assessed against payment for the item involved. The deficiency will be a percentage of the contract unit price as given in the following table.

| Percent Deficiency<br>(of Plan Thickness) | Percent Deduction<br>(of Contract Unit Price) |
|---|---|
| 0.0 to 2.0                                | 0   |
| 2.1 to 3.0                                | 20  |
| 3.1 to 4.0                                | 28  |
| 4.1 to 5.0                                | 32  |
| 5.1 to 7.5                                | 43  |
| 7.6 to 10.0                               | 50  |

- (7) Thickness Deficient by More than Ten Percent. When a core shows the pavement to be deficient by more than ten percent of plan thickness, additional cores shall be taken on each side of the deficient core, at stations selected by the Contractor and offsets selected by the Engineer, to determine the limits of the deficient pavement. No core shall be located within 5 ft (1.5 m) of a previous core obtained for thickness determination. The first acceptable core obtained on each side of a deficient core will be used to determine the length of the deficient pavement. An acceptable core is a core with a thickness of at least 90 percent of plan thickness. The area of deficient pavement will be defined using the length between two acceptable cores and the full width of the unit.

The area of deficient pavement shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such areas of deficient pavement to remain in place. For deficient areas allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When an area of deficient pavement is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness. The thickness of the new core will be used to determine the pay factor for the corrected area.

When an area of deficient pavement is left in place, and no additional lift(s) are placed, no payment will be made for the deficient pavement. In addition, an amount equal to two times the contract cost of the deficient pavement will be deducted from the compensation due the Contractor.

The thickness of the first acceptable core on each side of the core more than ten percent deficient will be used to determine any needed pay adjustments for the remaining areas on each side of the area deficient by more than ten percent. The pay adjustment will be determined according to Article 407.10(b)(6).

- (8) Right of Discovery. When the Engineer has reason to believe any core location does not accurately represent the true conditions of the work, he/she may order additional cores. These additional cores shall be taken at specific locations determined by the Engineer. The Engineer will provide notice to the Contractor containing an explanation of the reasons for his/her action.

When the additional cores show the pavement to be deficient by more than ten percent of plan thickness, the procedures outlined in Article 407.10(b)(7) shall be followed, except the Engineer will determine the additional core locations.

When the additional cores, ordered by the Engineer, show the pavement to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04.

- (9) Profile Index Adjustment. After any area of pavement is removed and replaced or any additional lifts are added, the corrected areas shall be retested for pavement smoothness and any necessary profile index adjustments and/or corrections will be made based on these final profile readings prior to retesting for thickness.”

Revise Article 482.06 of the Standard Specifications to read:

**“482.06 Tolerance in Thickness.** The shoulder shall be constructed to the thickness shown on the plans. When the contract includes square yards (square meters) as the unit of measurement for HMA shoulder, thickness determinations shall be made according to Article 407.10(b)(3) and the following.

- (a) Length of the Units. The length of a unit shall be a continuous strip of shoulder 2500 ft (750 m) long.

- (b) Width of the Units. The width of the unit shall be the full width of the shoulder.
- (c) Thickness Deficient by More than Ten Percent. When a core shows the shoulder to be deficient by more than ten percent of plan thickness, additional cores shall be taken on each side of the deficient core, at stations selected by the Contractor and offsets selected by the Engineer, to determine the limits of the deficient shoulder. No core shall be located within 5 ft (1.5 m) of a previous core obtained for thickness determination. The first acceptable core obtained on each side of a deficient core will be used to determine the length of the deficient shoulder. An acceptable core is a core with a thickness of at least 90 percent of plan thickness. The area of deficient shoulder will be defined using the length between two acceptable cores and the full width of the unit. The area of deficient shoulder shall be brought to specified thickness by the addition of the applicable mixture, at no additional cost to the Department and subject to the lift thickness requirements of Article 312.05, or by removal and replacement with a new mixture. However, the surface elevation of the completed shoulder shall not exceed by more than 1/8 in. (3 mm) the surface elevation of the adjacent pavement. When requested in writing by the Contractor, the Engineer may permit in writing such thin shoulder to remain in place. When an area of thin shoulder is left in place, and no additional lift(s) are placed, no payment will be made for the thin shoulder. In addition, an amount equal to two times the contract unit price of the shoulder will be deducted from the compensation due the Contractor.

When an area of deficient shoulder is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness.

- (d) Right of Discovery. When the Engineer has reason to believe any core location does not accurately represent the true conditions of the work, he/she may order additional cores. When the additional cores, ordered by the Engineer, show the shoulder to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04. When the additional core shows the shoulder to be less than 90 percent of plan thickness, the procedure in (c), above shall be followed.”

Revise Article 483.07 of the Standard Specifications to read:

**“483.07 Tolerance in Thickness.** The shoulder shall be constructed to the thickness shown on the plans. Thickness determinations shall be made according to Article 482.06 except the option of correcting deficient pavement with additional lift(s) shall not apply.”

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

Effective: September 1, 2000

Revised: January 1, 2011

**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 that 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.

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 that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This 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 that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform **16.00%** 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 forth in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal; or
- (b) The bidder documents that 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 may 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 web site at [www.dot.il.gov](http://www.dot.il.gov).

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

- (a) The bidder shall submit a Disadvantaged Business Utilization Plan on Department forms SBE 2025 and 2026 with the bid.
- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:
  - (1) The names and addresses of DBE firms that will participate in the contract;
  - (2) A description, including pay item numbers, of the work each DBE will perform;
  - (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
  - (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
  - (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
  - (6) If the contract goal is not met, evidence of good faith efforts.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that 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 performance 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. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that 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 that 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 prime 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.

- (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 that the apparent successful 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 that it is otherwise eligible for award. If the Department determines that 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 shall include a statement of reasons for the determination.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217)785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/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 forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order 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 prime 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 regular dealer or 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.

- (a) 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 submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) The Contractor must notify and obtain written approval from the Department's Bureau of Small Business Enterprises prior to replacing a DBE or making any change in the participation of a DBE. Approval for replacement will be granted only if it is demonstrated that the DBE is unable or unwilling to perform. The Contractor must make every good faith effort to find another certified DBE subcontractor to substitute for the original DBE. The good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the original DBE, to the extent needed to meet the contract goal.
- (c) Any deviation from the DBE condition-of-award or contract specifications must be approved, in writing, by the Department. 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.
- (d) 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) That 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) That the DBE is aware that 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) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonably 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) 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, must be signed and submitted.
- (f) If the commitment of work is in the form of additional tasks assigned to an existing subcontract, then a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (g) All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. The Contractor shall notify the Bureau of Small Business Enterprises of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Bureau of Small Business Enterprises and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau of Small Business Enterprises will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.
- (h) The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. 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 thirty 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 Regional 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 that 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 (j) of this part.
- (i) 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.

- (j) 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.

#### **ENGINEER'S FIELD OFFICE TYPE A (BDE)**

Effective: April 1, 2007

Revised: January 1, 2011

Revise Article 670.02 of the Standard Specifications to read:

**"670.02 Engineer's Field Office Type A.** Type A field offices shall have a minimum ceiling height of 7 ft (2 m) and a minimum floor space 450 sq ft (42 sq m). The office shall be provided with sufficient heat, natural and artificial light, and air conditioning.

The office shall have an electronic security system that will respond to any breach of exterior doors and windows. Doors and windows shall be equipped with locks. Doors shall also be equipped with dead bolt locks or other secondary locking device.

Windows shall be equipped with exterior screens to allow adequate ventilation. All windows shall be equipped with interior shades, curtains, or blinds. Adequate all-weather parking space shall be available to accommodate a minimum of ten vehicles.

Suitable on-site sanitary facilities meeting Federal, State, and local health department requirements shall be provided, maintained clean and in good working condition, and shall be stocked with lavatory and sanitary supplies at all times.

Sanitary facilities shall include hot and cold potable running water, lavatory and toilet as an integral part of the office where available. Solid waste disposal consisting of two waste baskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service.

In addition, the following furniture and equipment shall be furnished.

- (a) Four desks with minimum working surface 42 x 30 in. (1.1 m x 750 mm) each and five non-folding chairs with upholstered seats and backs.
- (b) One desk with minimum working surface 48 x 72 in. (1.2 x 1.8 m) with height adjustment of 23 to 30 in. (585 to 750 mm).
- (c) One four-post drafting table with minimum top size of 37 1/2 x 48 in. (950 mm x 1.2 m). The top shall be basswood or equivalent and capable of being tilted through an angle of 50 degrees. An adjustable height drafting stool with upholstered seat and back shall also be provided.
- (d) Two free standing four drawer legal size file cabinet with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.

- (e) One 6 ft (1.8 m) folding table with six folding chairs.
- (f) One equipment cabinet of minimum inside dimension of 44 in. (1100 mm) high x 24 in. (600 mm) wide x 30 in. (750 mm) deep with lock. The walls shall be of steel with a 3/32 in. (2 mm) minimum thickness with concealed hinges and enclosed lock constructed in such a manner as to prevent entry by force. The cabinet assembly shall be permanently attached to a structural element of the field office in a manner to prevent theft of the entire cabinet.
- (g) One refrigerator with a minimum size of 16 cu ft (0.45 cu m) with a freezer unit.
- (h) One electric desk type tape printing calculator.
- (i) A minimum of two communication paths. The configuration shall include:
  - (1) Internet Connection. An internet service connection using telephone DSL, cable broadband, or CDMA wireless technology. Additionally, an 802.11g/N wireless router shall be provided, which will allow connection by the Engineer and up to four Department staff.
  - (2) Telephone Lines. Three separate telephone lines.
- (j) One plain paper copy machine capable of reproducing prints up to 11 x 17 in. (280 x 432 mm) with an automatic feed tray capable of storing 30 sheets of paper. Letter size and 11 x 17 in. (280 x 432 mm) paper shall be provided.
- (k) One plain paper fax machine with paper.
- (l) Two telephones, with touch tone, where available, and a digital telephone answering machine, for exclusive use by the Engineer.
- (m) One electric water cooler dispenser.
- (n) One first-aid cabinet fully equipped.
- (o) One microwave oven, 1 cu ft (0.03 cu m) minimum capacity.
- (p) One fire-proof safe, 0.5 cu ft (0.01 cu m) minimum capacity.
- (q) One electric paper shredder.
- (r) One post mounted rain gauge, located on the project site for each 5 miles (8 km) of project length.”

Revise the first sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

“The building or buildings fully equipped as specified will be paid for on a monthly basis until the building or buildings are released by the Engineer.”

Revise the last sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:



“This price shall include all utility costs and shall reflect the salvage value of the building or buildings, equipment, and furniture which become the property of the Contractor after release by the Engineer, except that the Department will pay that portion of the monthly long distance and monthly local telephone bills that, when combined, exceed \$150.”

### **EQUIPMENT RENTAL RATES (BDE)**

Effective: August 2, 2007

Revised: January 2, 2008

Replace the second and third paragraphs of Article 105.07(b)(4)a. of the Standard Specifications with the following:

“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).”

Replace Article 109.04(b)(4) of the Standard Specifications with the following:

“(4) Equipment. Equipment used for extra work shall be authorized by the Engineer. The equipment shall be specifically described, be of suitable size and capacity for the work to be performed, and be in good operating condition. For such equipment, the Contractor will be paid as follows.

- a. Contractor Owned Equipment. Contractor owned equipment will be paid for by the hour using the applicable FHWA hourly rate from the “Equipment Watch Rental Rate Blue Book” (Blue Book) in effect when the force account work begins. The FHWA hourly rate is calculated as follows.

$$\text{FHWA hourly rate} = (\text{monthly rate}/176) \times (\text{model year adj.}) \times (\text{Illinois adj.}) + \text{EOC}$$

Where: EOC = Estimated Operating Costs per hour (from the Blue Book)

The time allowed will be the actual time the equipment is operating on the extra work. For the time required to move the equipment to and from the site of the extra work and any authorized idle (standby) time, payment will be made at the following hourly rate:  $0.5 \times (\text{FHWA hourly rate} - \text{EOC})$ .

All time allowed shall fall within the working hours authorized for the extra work.

The rates above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhaul and maintenance of any kind, depreciation, storage, overhead, profits, insurance, and all incidentals. The rates do not include labor.

The Contractor shall submit to the Engineer sufficient information for each piece of equipment and its attachments to enable the Engineer to determine the proper equipment category. If a rate is not established in the Blue Book for a particular piece of equipment, the Engineer will establish a rate for that piece of equipment that is consistent with its cost and use in the industry.

- b. Rented Equipment. Whenever it is necessary for the Contractor to rent equipment to perform extra work, the rental and transportation costs of the equipment plus five percent for overhead will be paid. In no case shall the rental rates exceed those of established distributors or equipment rental agencies.

All prices shall be agreed to in writing before the equipment is used.”

### **FLAGGER AT SIDE ROADS AND ENTRANCES (BDE)**

Effective: April 1, 2009

Revise the second paragraph of Article 701.13(a) of the Standard Specifications to read:

“The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.”

Revise the first and second paragraph of Article 701.20(i) of the Standard Specifications to read:

“Signs, barricades, or other traffic control devices required by the Engineer over and above those specified will be paid for according to Article 109.04. All flaggers required at side roads and entrances remaining open to traffic including those that are shown on the Highway Standards and/or additional barricades required by the Engineer to close side roads and entrances will be paid for according to Article 109.04.”

### **FRICTION AGGREGATE (BDE)**

Effective: January 1, 2011

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

“(4)Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.

- a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).
- b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase.”

Revise Article 1004.03(a) of the Standard Specifications to read:

“**1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA).** The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate for HMA shall be according to the following table.

| Use                          | Mixture  | Aggregates Allowed   |                 |                |               |          |
|------------------------------|--|--|-----------------|----------------|---------------|----------|
| Class A                      | Seal or Cover  | <u>Allowed Alone or in Combination:</u><br>Gravel<br>Crushed Gravel<br>Carbonate Crushed Stone<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag<br>Crushed Concrete  |                 |                |               |          |
| HMA<br>All Other             | Stabilized Subbase<br>or Shoulders   | <u>Allowed Alone or in Combination:</u><br>Gravel<br>Crushed Gravel<br>Carbonate Crushed Stone<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag <sup>1/</sup><br>Crushed Concrete  |                 |                |               |          |
| HMA<br>High ESAL<br>Low ESAL | Binder<br>IL-25.0, IL-19.0,<br>or IL-19.0L<br><br>SMA Binder                                       | <u>Allowed Alone or in Combination:</u><br>Crushed Gravel<br>Carbonate Crushed Stone <sup>2/</sup><br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Concrete <sup>3/</sup>  |                 |                |               |          |
| HMA<br>High ESAL<br>Low ESAL | C Surface and<br>Leveling Binder<br>IL-12.5,IL-9.5,<br>or IL-9.5L<br><br>SMA<br>Ndesign 50 Surface | <u>Allowed Alone or in Combination:</u><br>Crushed Gravel<br>Carbonate Crushed Stone <sup>2/</sup><br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag <sup>4/</sup><br>Crushed Concrete <sup>3/</sup>  |                 |                |               |          |
| HMA<br>High ESAL             | D Surface and<br>Leveling Binder<br>IL-12.5 or<br>IL-9.5<br><br>SMA<br>Ndesign 50<br>Surface       | <u>Allowed Alone or in Combination:</u><br>Crushed Gravel<br>Carbonate Crushed Stone (other than<br>Limestone) <sup>2/</sup><br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF) <sup>5/</sup><br>Crushed Steel Slag <sup>4/ 5/</sup><br>Crushed Concrete <sup>3/</sup> |                 |                |               |          |
|                              |  | <u>Other Combinations Allowed:</u>   |                 |                |               |          |
|                              |  | <table border="1"> <tr> <td><i>Up to...</i></td> <td><i>With...</i></td> </tr> <tr> <td>25% Limestone</td> <td>Dolomite</td> </tr> </table>  | <i>Up to...</i> | <i>With...</i> | 25% Limestone | Dolomite |
| <i>Up to...</i>              | <i>With...</i>   |  |                 |                |               |          |
| 25% Limestone                | Dolomite   |  |                 |                |               |          |

|  |  |  |   |
|--|--|--|---|
|  |  | 50% Limestone  | Any Mixture D aggregate other than Dolomite   |
|  |  | 75% Limestone  | Crushed Slag (ACBF) <sup>5/</sup> or Crushed Sandstone  |
| HMA<br>High ESAL                                     | E Surface<br>IL-12.5 or<br>IL-9.5<br><br>SMA<br>Ndesign 80<br>Surface  | <u>Allowed Alone or in Combination:</u><br>Crushed Gravel<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF) <sup>5/</sup><br>Crushed Steel Slag <sup>5/</sup><br>Crushed Concrete <sup>3/</sup> |   |
|  |  | No Limestone.  |   |
|  |  | <u>Other Combinations Allowed:</u>   |   |
|  |  | <i>Up to...</i>  | <i>With...</i>  |
|  |  | 50% Dolomite <sup>2/</sup>   | Any Mixture E aggregate   |
|  |  | 75% Dolomite <sup>2/</sup>   | Crushed Sandstone,<br>Crushed Slag (ACBF) <sup>5/</sup> ,<br>Crushed Steel Slag <sup>5/</sup> , or<br>Crystalline Crushed Stone |
| 75% Crushed Gravel or Crushed Concrete <sup>3/</sup> | Crushed Sandstone,<br>Crystalline Crushed Stone,<br>Crushed Slag (ACBF) <sup>5/</sup> , or<br>Crushed Steel Slag <sup>5/</sup> |  |   |
| HMA<br>High ESAL                                     | F Surface<br>IL-12.5 or<br>IL-9.5<br><br>SMA<br>Ndesign 80<br>Surface  | <u>Allowed Alone or in Combination:</u><br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF) <sup>5/</sup><br>Crushed Steel Slag <sup>5/</sup><br>No Limestone.                                    |   |
|  |  | <u>Other Combinations Allowed:</u>   |   |
|  |  | <i>Up to...</i>  | <i>With...</i>  |
|  |  | 50% Crushed Gravel, Crushed Concrete <sup>3/</sup> , or Dolomite <sup>2/</sup>   | Crushed Sandstone,<br>Crushed Slag (ACBF) <sup>5/</sup> ,<br>Crushed Steel Slag <sup>5/</sup> , or<br>Crystalline Crushed Stone |

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When either slag is used, the blend percentages listed shall be by volume."

**HMA - HAULING ON PARTIALLY COMPLETED FULL-DEPTH PAVEMENT (BDE)**

Effective: January 1, 2008

Revise Article 407.08 of the Standard Specifications to read:

**“407.08 Hauling on the Partially Completed Full-Depth Pavement.** Legally loaded trucks will be permitted on the partially completed full-depth HMA pavement only to deliver HMA mixture to the paver, provided the last lift has cooled a minimum of 12 hours. Hauling shall be limited to the distances shown in the following tables. The pavement surface temperature shall be measured using an infrared gun. The use of water to cool the pavement to permit hauling will not be allowed. The Contractor’s traffic pattern shall minimize hauling on the partially completed pavement and shall vary across the width of the pavement such that “tracking” of vehicles, one directly behind the other, does not occur.

| MAXIMUM HAULING DISTANCE FOR<br>PAVEMENT SURFACE TEMPERATURE BELOW 105 °F (40 °C) |                                |                       |                           |                        |
|---|--------------------------------|-----------------------|---------------------------|------------------------|
| Total In-Place<br>Thickness Being<br>Hauled On,<br>in. (mm)                       | Thickness of Lift Being Placed |                       |                           |                        |
|   | 3 in. (75 mm) or less          |                       | More than 3 in. (75 mm)   |                        |
|   | Modified Soil<br>Subgrade      | Granular<br>Subbase   | Modified Soil<br>Subgrade | Granular<br>Subbase    |
| 3.0 to 4.0<br>(75 to 100)   | 0.75 miles<br>(1200 m)         | 1.0 mile<br>(1600 m)  | 0.50 miles<br>(800 m)     | 0.75 miles<br>(1200 m) |
| 4.1 to 5.0<br>(101 to 125)  | 1.0 mile<br>(1600 m)           | 1.5 miles<br>(2400 m) | 0.75 miles<br>(1200 m)    | 1.0 mile<br>(1600 m)   |
| 5.1 to 6.0<br>(126 to 150)  | 2.0 miles<br>(3200 m)          | 2.5 miles<br>(4000 m) | 1.5 miles<br>(2400 m)     | 2.0 miles<br>(3200 m)  |
| 6.1 to 8.0<br>(151 to 200)  | 2.5 miles<br>(4000 m)          | 3.0 miles<br>(4800 m) | 2.0 miles<br>(3200 m)     | 2.5 miles<br>(4000 m)  |
| Over 8.0 (200)  | No Restrictions                |                       |                           |                        |

| MAXIMUM HAULING DISTANCE FOR<br>PAVEMENT SURFACE TEMPERATURE OF 105 °F (40 °C) AND ABOVE |                                |                        |                           |                        |
|--|--------------------------------|------------------------|---------------------------|------------------------|
| Total In-Place<br>Thickness Being<br>Hauled On,<br>in. (mm)                              | Thickness of Lift Being Placed |                        |                           |                        |
|  | 3 in. (75 mm) or less          |                        | More than 3 in. (75 mm)   |                        |
|  | Modified Soil<br>Subgrade      | Granular<br>Subbase    | Modified Soil<br>Subgrade | Granular<br>Subbase    |
| 3.0 to 4.0<br>(75 to 100)  | 0.50 miles<br>(800 m)          | 0.75 miles<br>(1200 m) | 0.25 miles<br>(400 m)     | 0.50 miles<br>(800 m)  |
| 4.1 to 5.0<br>(101 to 125)   | 0.75 miles<br>(1200 m)         | 1.0 mile<br>(1600 m)   | 0.50 miles<br>(800 m)     | 0.75 miles<br>(1200 m) |
| 5.1 to 6.0<br>(126 to 150)   | 1.0 mile<br>(1600 m)           | 1.5 miles<br>(2400 m)  | 0.75 miles<br>(1200 m)    | 1.0 mile<br>(1600 m)   |
| 6.1 to 8.0<br>(151 to 200)   | 2.0 miles<br>(3200 m)          | 2.5 miles<br>(4000 m)  | 1.5 miles<br>(2400 m)     | 2.0 miles<br>(3200 m)  |
| Over 8.0 (200)   | No Restrictions                |                        |                           |                        |

Permissive hauling on the partially completed pavement shall not relieve the Contractor of his/her responsibility for damage to the pavement. Any portion of the full-depth HMA pavement that is damaged by hauling shall be removed and replaced, or otherwise repaired to the satisfaction of the Engineer.

Crossovers used to transfer haul trucks from one roadway to the other shall be at least 1000 ft (300 m) apart and shall be constructed of material that will prevent tracking of dust or mud on the completed HMA lifts. The Contractor shall construct, maintain, and remove all crossovers.”

### **HOT-MIX ASPHALT – ANTI-STRIPPING ADDITIVE (BDE)**

Effective: November 1, 2009

Revise the first and second paragraphs of Article 1030.04(c) of the Standard Specifications to read:

“(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified AASHTO T 283. To be considered acceptable by the Department as a mixture not susceptible to stripping, the conditioned to unconditioned split tensile strength ratio (TSR) shall be equal to or greater than 0.85 for 6 in. (150 mm) specimens. Mixtures, either with or without an additive, with TSRs less than 0.85 for 6 in. (150 mm) specimens will be considered unacceptable. Also, the conditioned tensile strength for mixtures containing an anti-strip additive shall not be lower than the original conditioned tensile strength determined for the same mixture without the anti-strip additive.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option.”

### **HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)**

Effective: January 1, 2010

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

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

“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 2 in. (50 mm), from each pavement edge. (i.e. for a 4 in. (100 mm) lift the near edge of the density gauge or core barrel shall be within 4 in. (100 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 ten feet apart longitudinally along the unconfined pavement edge and centered at the random density test location.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

| “Mixture Composition       | Parameter         | Individual Test<br>(includes confined edges) | Unconfined Edge<br>Joint Density Minimum |
|----------------------------|-------------------|--|--|
| IL-9.5, IL-12.5            | Ndesign ≥ 90      | 92.0 – 96.0%                                 | 90.0%                                    |
| IL-9.5,IL-9.5L, IL-12.5    | Ndesign < 90      | 92.5 – 97.4%                                 | 90.0%                                    |
| IL-19.0, IL-25.0           | Ndesign ≥ 90      | 93.0 – 96.0%                                 | 90.0%                                    |
| IL-19.0, IL-19.0L, IL-25.0 | Ndesign < 90      | 93.0 – 97.4%                                 | 90.0%                                    |
| SMA                        | Ndesign = 50 & 80 | 93.5 – 97.4%                                 | 91.0%                                    |
| All Other                  | Ndesign = 30      | 93.0 - 97.4%                                 | 90.0%”                                   |

**HOT-MIX ASPHALT – DROP-OFFS (BDE)**

Effective: January 1, 2010

Revise the third paragraph of Article 701.07 of the Standard Specifications to read:

“At locations where construction operations result in a differential in elevation exceeding 3 in. (75 mm) between the edge of pavement or edge of shoulder within 3 ft (900 mm) of the edge of the pavement and the earth or aggregate shoulders, Type I or II barricades or vertical panels shall be placed at 100 ft (30 m) centers on roadways where the posted speed limit is 45 mph or greater and at 50 ft (15 m) centers on roadways where the posted speed limit is less than 45 mph.”

**IMPACT ATTENUATORS, TEMPORARY (BDE)**

Effective: November 1, 2003

Revised: January 1, 2007

Description. This work shall consist of furnishing, installing, maintaining, and removing temporary impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

| Item   | Article/Section           |
|--|---------------------------|
| (a) Fine Aggregate (Note 1)                              | 003.01                    |
| (b) Steel Posts, Structural Shapes, and Plates           | 1006.04                   |
| (c) Rail Elements, End Section Plates, and Splice Plates | 1006.25                   |
| (d) Bolts, Nuts, Washers and Hardware                    | 1006.25                   |
| (e) Hollow Structural Tubing                             | 1006.27(b)                |
| (f) Wood Posts and Wood Blockouts                        | 1007.01, 1007.02, 1007.06 |
| (g) Preservative Treatment                               | 1007.12                   |
| (h) Packaged Rapid Hardening Mortar                      | 1018.01                   |

Note 1. Fine aggregate shall be FA 1 or FA 2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

### CONSTRUCTION REQUIREMENTS

General. Impact Attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer's specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

When water filled attenuators are used between November 1 and April 15, they shall contain anti-freeze according to the manufacturer's recommendations.

Markings. Sand module impact attenuators shall be striped with alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes. There shall be at least two of each stripe on each module.

Other types of impact attenuators shall have a terminal marker applied to their nose and reflectors along their sides.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When relocation of temporary impact attenuators is specified, they shall be removed, relocated and reinstalled at the new location. The reinstallation requirements shall be the same as those for a new installation.

Removal. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

Surplus material shall be disposed of according to Article 202.03. Anti-freeze, when present, shall be disposed of/recycled according to local ordinances.

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.



Basis of Payment. This work will be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE); or IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

Relocation of the devices will be paid for at the contract unit price per each for IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE); IMPACT ATTENUATORS, RELOCATE (SEVERE USE); or IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE); of the test level specified.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

### **IMPROVED SUBGRADE (BDE)**

Effective: January 1, 2010

Revise the second paragraph of Article 302.04 of the Standard Specifications to read:

“The quantity of modified soil constructed shall be limited to that which can be covered by the full thickness of portland cement concrete pavement or HMA binder during the same construction season.”

Revise the first paragraph of Article 302.07 of the Standard Specifications to read:

“**302.07 Application of Modifier.** The modifier shall be applied uniformly on the soil. The application of modifier shall be limited to that amount which can be mixed with the soil within the same working day.”

Revise the first paragraph of Article 302.08 of the Standard Specifications to read:

“**302.08 Mixing.** The modifier, soil, and water shall be thoroughly mixed. Mixing shall continue until a homogenous layer of the required thickness has been obtained and a minimum of 75 percent of the mixture is smaller than 1 in. (25 mm). The moisture content of the modified soil shall be above optimum moisture content with a maximum of three percent above optimum.”

Revise Article 302.10 of the Standard Specifications to read:

“**302.10 Finishing and Curing.** When multiple lifts are used to construct the modified soil layer, the top lift shall be a minimum of 6 in. (150 mm) thick when compacted.

Construction of pipe underdrains shall follow the requirements of Article 407.07. The surface of the modified soil shall be kept drained according to Article 301.09 and shall maintain moisture content not exceeding three percent above optimum prior to pavement construction.

When compaction of the modified soil is nearing completion, the surface shall be shaped to the required lines, grades, and cross section shown on the plans.

For HMA base course and pavement (full-depth) and portland cement concrete base course and pavement, the surface of the modified soil shall be brought to true shape and correct elevation according to Article 301.07, except well compacted earth shall not be used to fill low areas.

The modified soil shall be cured for a minimum of 24 hours. The ambient air temperature shall be above 45 °F (7 °C) during curing.

During the curing period, the moisture content of the modified soil shall be maintained at optimum by sprinkling with water, use of plastic sheeting, or applying bituminous materials according to Article 312.14. During this period, no equipment or traffic will be permitted on the completed work beyond that required for maintenance of curing.

Equipment of such weight, or used in such a way as to cause a rut depth of 1/2 in. (13 mm) or more in the finished modified soil, shall be removed, or the rutting otherwise prevented, as directed by the Engineer.”

Revise the first paragraph of Article 302.11 of the Standard Specifications to read:

“**302.11 Subgrade Stability.** Following curing, the Engineer will determine the stability of the modified soil in terms of the immediate bearing value (IBV), according to Illinois Test Procedure 501. The IBV shall be a minimum of 10.0 measured within 10 calendar days prior to pavement construction.”

Revise the second paragraph of Article 310.04 of the Standard Specifications to read:

“The quantity of lime stabilized soil mixture constructed shall be limited to that which can be covered by the full thickness of portland cement concrete pavement or HMA binder during the same construction season.”

Revise the first paragraph of Article 310.08(a) of the Standard Specifications to read:

“(a) Initial Mixing. The lime, soil, and water shall be thoroughly mixed until a uniform mixture throughout the required depth and width is obtained. All clods and lumps shall be reduced to a maximum size of 2 in. (50 mm). The moisture content of the stabilized soil shall be above optimum moisture content with a maximum of three percent above optimum.”

Insert the following paragraph after the first paragraph of Article 310.10 of the Standard Specifications:

“Construction of pipe underdrains shall follow the requirements of Article 407.07. The surface of the lime stabilized soil shall be kept drained according to Article 301.09 and shall maintain a maximum moisture content of three percent above optimum prior to pavement construction.”

Revise the first paragraph of Article 310.11 of the Standard Specifications to read:

“**310.11 Subgrade Stability.** Following curing, the Engineer will determine the stability of the lime stabilized soil mixture in terms of the immediate bearing value (IBV) according to Illinois Test Procedure 501.

The IBV shall be a minimum of 23.0 measured within 10 calendar days prior to pavement construction.”

Revise the second paragraph of Article 311.05 of the Standard Specifications to read:

“The granular material shall be placed and compacted at least three days prior to the placement of pavement or base course. Except where required for temporary access, the quantity of subbase granular material Types A or B to be placed shall be limited to that which can be covered by the full thickness of PCC pavement or HMA binder during the same construction season.”

**LIQUIDATED DAMAGES (BDE)**

Effective: April 1, 2009

Revised: April 1, 2011

Revise the table in Article 108.09 of the Standard Specifications to read:

| “Schedule of Deductions for Each Day of Overrun in Contract Time |                  |               |          |
|--|------------------|---------------|----------|
| Original Contract Amount   |                  | Daily Charges |          |
| From More Than   | To and Including | Calendar Day  | Work Day |
| \$ 0   | \$ 100,000       | \$ 475        | \$ 675   |
| 100,000  | 500,000          | 750           | 1,050    |
| 500,000  | 1,000,000        | 1,025         | 1,425    |
| 1,000,000  | 3,000,000        | 1,275         | 1,725    |
| 3,000,000  | 6,000,000        | 1,425         | 2,000    |
| 6,000,000  | 12,000,000       | 2,300         | 3,450    |
| 12,000,000   | And over         | 5,800         | 8,125”   |

**METAL HARDWARE CAST INTO CONCRETE (BDE)**

Effective: April 1, 2008

Revised: April 1, 2009

Add the following to Article 503.02 of the Standard Specifications:

“(g) Metal Hardware Cast into Concrete ..... 1006.13”

Add the following to Article 504.02 of the Standard Specifications:

“(j) Metal Hardware Cast into Concrete ..... 1006.13”

Revise Article 1006.13 of the Standard Specifications to read:

“**1006.13 Metal Hardware Cast into Concrete.** Unless otherwise noted, all steel hardware cast into concrete, such as inserts, brackets, cable clamps, metal casings for formed holes, and other miscellaneous items, shall be galvanized according to AASHTO M 232 or AASHTO M 111. Aluminum inserts will not be allowed. Zinc alloy inserts shall be according to ASTM B 86, Alloys 3, 5, or 7.

The inserts shall be UNC threaded type anchorages having the following minimum certified proof load.

| Insert Diameter | Proof Load        |
|-----------------|-------------------|
| 5/8 in. (16 mm) | 6600 lb (29.4 kN) |
| 3/4 in. (19 mm) | 6600 lb (29.4 kN) |
| 1 in. (25 mm)   | 9240 lb (41.1 kN) |

**MULCH AND EROSION CONTROL BLANKETS (BDE)**

Effective: November 1, 2010

Revised: April 1, 2011

Revise the first sentence of Article 251.03 of the Standard Specifications to read:

“Within 24 hours of seed placement, mulch by one of the following methods shall be placed on the areas specified.”

Revise Article 251.03(b)(2) of the Standard Specifications to read:

“(2) Procedure 2. This procedure shall consist of stabilizing the straw with an approved mulch blower followed immediately by an overspray application of light-duty hydraulic mulch. The hydraulic mulch shall be according to Article 251.03(c) except that it shall be applied as a slurry of 900 lb (1020 kg) of mulch and 1000 gal (9500 L) of water per acre (hectare) using a hydraulic mulch applicator. The light-duty hydraulic mulch shall be agitated a minimum of five minutes before application and shall be agitated during application. The light-duty hydraulic mulch shall be applied from opposing directions to ensure even coverage.”

Revise Article 251.03(c) of the Standard Specification to read:

“(c) Method 3. This method shall consist of the machine application of a light-duty hydraulic mulch. Seeding shall be conducted as a separate operation and shall not be added to the hydraulic mulch slurry. Hydraulic mulch shall not be applied when the ambient temperature is at or below freezing. To achieve full and even coverage, the hydraulic mulch shall be applied from two opposing directions. Mixing and application rates shall be according to the manufacturer’s recommendations and meet the minimum application rates set in Article 1081.06(a)(2).”

Revise Article 251.03(d) of the Standard Specifications to read:

“(d) Method 3A. This method shall consist of the machine application of a heavy-duty hydraulic mulch. Seeding shall be conducted as a separate operation and shall not be added to the hydraulic mulch slurry. The hydraulic mulch shall not be applied when the ambient temperature is at or below freezing. To achieve full and even coverage, the hydraulic mulch shall be applied from two opposing directions. Mixing and application rates shall be according to the manufacturer’s recommendations and meet the minimum application rates set in Article 1081.06(a)(2). The heavy-duty hydraulic mulch shall be applied using a mechanically agitated hydraulic mulching machine.”

Add the following to Article 251.03 of the Standard Specifications:

“(e) Method 4. This method shall consist of applying compost combined with a performance additive designed to bind/stabilize the compost.

The compost/performance additive mixture shall be applied to the surface of the slope using a pneumatic blower at a depth of 2 in. (50 mm).”

Revise Article 251.04 of the Standard Specifications to read:

**“251.04 Erosion Control Blanket.** Erosion control blanket may be placed using either excelsior blanket or knitted straw blanket. Within 24 hours of seed placement, blanket shall be placed on the areas specified. Prior to placing the blanket, the areas to be covered shall be relatively free of rocks or clods over 1 1/2 in. (40 mm) in diameter, and sticks or other foreign material which will prevent the close contact of the blanket with the seed bed. If, as a result of rain, the prepared seed bed becomes crusted or eroded, or if eroded places, ruts, or depressions exist for any reason, the Contractor shall rework the soil until it is smooth and reseed such areas which are reworked.

After the area has been properly shaped, fertilized, and seeded, the blanket shall be laid out flat, evenly, and smoothly, without stretching the material. The excelsior and knitted straw blankets shall be placed so that the netting is on the top and the fibers are in contact with the soil. The heavy duty blankets shall be placed so that the heavy duty extruded plastic mesh is on the bottom.

For placement in ditches, the erosion control blanket shall be applied parallel to the centerline of the ditch so that there are no longitudinal seams within 2 ft (600 mm) of the bottom centerline of the ditch. The blanket shall be toed in on the upslope edge and shingled or overlapped with the flow.

On slopes, the blanket shall be applied either horizontally or vertically to the contour, toed in on the upslope edge, and shingled or overlapped with the flow.

When placed adjacent to the roadway, blankets shall be toed in along the edge of shoulder.

Anchoring the blankets shall be according to the manufacturer’s specifications.”

Revise Article 251.06(b) of the Supplemental Specifications to read:

“(b) Measured Quantities. Mulch Methods 1, 2, 3, 3A and 4 will be measured for payment in place in acres (hectares) of surface area mulched. Erosion control blanket, heavy duty erosion control blanket, and turf reinforcement mat will be measured for payment in place in square yards (square meters).”

Revise Article 251.07 of the Supplemental Specifications to read:

**“251.07 Basis of Payment.** This work will be paid for at the contract unit price per acre (hectare) for MULCH, METHOD 1; MULCH, METHOD 2; MULCH, METHOD 3; MULCH, METHOD 3A; MULCH, METHOD 4; and at the contract unit price per square yard (square meter) for EROSION CONTROL BLANKET, HEAVY DUTY EROSION CONTROL BLANKET, or TURF REINFORCEMENT MAT.”

Revise Article 1081.06(a)(2) of the Standard Specifications to read:

“(2) Hydraulic Mulch. The mulch component shall be comprised of a minimum of 70 percent biodegradable material such as wood cellulose, paper fibers, straw or cotton and shall contain no growth or germination inhibiting factors.

The remainder of the components shall consist of the manufacturer's choice of tackifiers and/or strengthening fibers needed to meet the performance specifications. Tackifiers shall be non-toxic and LC 50 test results shall be provided along with the manufacturer's certification. Hydraulic mulch shall disperse evenly and rapidly and remain in slurry when agitated with water. When uniformly applied, the slurry shall form an absorbent cover allowing percolation of water to the underlying surface. Hydraulic mulch shall be packaged in UV and moisture resistant factory labeled packages or bags with the net quantity of the packaged material plainly shown on each package. The biodegradable material shall be relatively free of glossy papers and shall not be water soluble. The hydraulic mulches shall be according to the following.

| Light-Duty Hydraulic Mulch                     |                           |
|--|---------------------------|
| Property <sup>1/</sup>                         | Value                     |
| Functional Longevity <sup>2/</sup>             | 3 months                  |
| Minimum Application Rates                      | 2000 lb/acre (2240 kg/ha) |
| Typical Maximum Slope Gradient (V:H)           | ≤ 1:3                     |
| Maximum Uninterrupted Slope Length             | 50 ft (15 m)              |
| Maximum C Factor                               | 0.15                      |
| Minimum Vegetation Establishment <sup>5/</sup> | 200 %                     |

| Heavy-Duty Hydraulic Mulch                     |                           |
|--|---------------------------|
| Property <sup>1/</sup>                         | Value                     |
| Functional Longevity <sup>2/</sup>             | 12 months                 |
| Minimum Application Rates                      | 3000 lb/acre (3360 kg/ha) |
| Typical Maximum Slope Gradient (V:H)           | ≤ 1:2                     |
| Maximum Uninterrupted Slope Length             | 100 ft (30 m)             |
| Maximum C Factor <sup>3/4/</sup>               | 0.02                      |
| Minimum Vegetation Establishment <sup>5/</sup> | 400 %                     |

- 1/ This table sets minimum requirements only. Refer to manufacturer recommendations for application rates, instructions, gradients, maximum continuous slope lengths and other site specific recommendations.
- 2/ Manufacturer's estimated time period, based upon field observations, that a material can be anticipated to provide erosion control as influenced by its composition and site-specific conditions.
- 3/ "C" Factor calculated as ratio of soil loss from HECF protected slope (tested at specified or greater gradient, h:v) to ratio of soil loss from unprotected (control) plot based on large-scale testing.
- 4/ Large-scale test methods shall be according to ASTM D 6459.
- 5/ Minimum vegetation establishment shall be calculated according to ASTM D 7322.

The manufacturer shall furnish a certification with each shipment of hydraulic mulch stating the number of packages or bags furnished and that the material complies with these requirements."

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM / EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE)**

Effective: April 1, 2007

Revised: November 1, 2009

Revise Article 105.03(a) of the Standard Specifications to read:

“(a) National Pollutant Discharge Elimination System (NPDES) / Erosion and Sediment Control Deficiency Deduction When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, or the Contractor’s activities represents a violation of the Department’s NPDES permits, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 1 week based on the urgency of the situation and the nature of the work effort required. The Engineer will be the sole judge.

A deficiency may be any lack of repair, maintenance, or implementation of erosion and/or sediment control devices included in the contract, or any failure to comply with the conditions of the Department’s NPDES permits. A deficiency may also be applied to situations where corrective action is not an option such as the failure to participate in a jobsite inspection of the project, failure to install required measures prior to initiating earth moving operations, disregard of concrete washout requirements, or other disregard of the NPDES permit.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or portion of a calendar day until the deficiency is corrected to the satisfaction of the Engineer. The calendar day(s) will begin with notification to the Contractor and end with the Engineer’s acceptance of the correction. The base value of the daily monetary deduction is \$1000.00 and will be applied to each location for which a deficiency exists. The value of the deficiency deduction assessed for each infraction will be determined by multiplying the base value by a Gravity Adjustment Factor provided in Table A. Except for failure to participate in a required jobsite inspection of the project prior to initiating earthmoving operations which will be based on the total acreage of planned disturbance at the following multipliers: <5 Acres: 1; 5-10 Acres: 2; >10-25 Acres: 3; >25 Acres: 5. For those deficiencies where corrective action was not an option, the monetary deduction will be immediate and will be valued at one calendar day multiplied by a Gravity Adjustment Factor.

| Table A<br>Deficiency Deduction Gravity Adjustment Factors                                   |  |              |                |            |
|--|--|--------------|----------------|------------|
| Types of Violations  | Soil Disturbed and Not Permanently Stabilized At Time of Violation |              |                |            |
|  | < 5 Acres  | 5 - 10 Acres | >10 - 25 Acres | > 25 Acres |
| Failure to Install or Properly Maintain BMP  | 0.1 - 0.5  | 0.2 - 1.0    | 0.5 - 2.5      | 1.0 - 5    |
| Careless Destruction of BMP  | 0.2 - 1  | 0.5 - 2.5    | 1.0 - 5.       | 1.0 - 5    |
| Intrusion into Protected Resource  | 1.0 - 5  | 1.0 - 5      | 2.0 - 10       | 2.0 - 10   |
| Failure to properly manage Chemicals, Concrete Washouts or Residuals, Litter or other Wastes | 0.2 - 1  | 0.2 - 1      | 0.5 - 2.5      | 1.0 - 5    |
| Improper Vehicle and Equipment Maintenance, Fueling or Cleaning                              | 0.1 - 0.5  | 0.2 - 1      | 0.2 - 1        | 0.5 - 2.5  |
| Failure to Provide or Update Written or Graphic Plans Required by SWPPP                      | 0.2 - 1  | 0.5 - 2.5    | 1.0 - 5        | 1.0 - 5    |
| Failure to comply with Other Provisions of the NPDES Permit                                  | 0.1 - 0.5  | 0.2 - 1      | 0.2 - 1        | 0.5 - 2.5” |

**PAVEMENT MARKING REMOVAL (BDE)**

Effective: April 1, 2009

Add the following to the end of the first paragraph of Article 783.03(a) of the Standard Specifications:

“The use of grinders will not be allowed on new surface courses.”

**PAYMENTS TO SUBCONTRACTORS (BDE)**

Effective: June 1, 2000

Revised: January 1, 2006

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the State Prompt Payment Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

When progress payments are made to the Contractor according to Article 109.07 of the Standard Specifications, the Contractor shall make a corresponding payment to each subcontractor and material supplier in proportion to the work satisfactorily completed by each subcontractor and for the material supplied to perform any work of the contract. The proportionate amount of partial payment due to each subcontractor and material supplier throughout the contracting chain shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors and material suppliers shall be paid by the Contractor within 15 calendar days after the receipt of payment from the Department. The Contractor shall not hold retainage from the subcontractors. These obligations shall also apply to any payments made by subcontractors and material suppliers to their subcontractors and material suppliers; and to all payments made to lower tier subcontractors and material suppliers throughout the contracting chain. Any payment or portion of a payment subject to this provision may only be withheld from the subcontractor or material supplier to whom it is due for reasonable cause.

This Special Provision does not create any rights in favor of any subcontractor or material supplier against the State or authorize any cause of action against the State on account of any payment, nonpayment, delayed payment, or interest claimed by application of the State Prompt Payment Act.



The Department will not approve any delay or postponement of the 15 day requirement except for reasonable cause shown after notice and hearing pursuant to Section 7(b) of the State Prompt Payment Act. State law creates other and additional remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond according to the Public Construction Bond Act, 30 ILCS 550.

### **POST MOUNTING OF SIGNS (BDE)**

Effective: January 1, 2011

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

“Post mounted signs shall be a breakaway design. The sign shall be within five degrees of vertical. Two posts shall be used for signs greater than 16 sq ft (1.5 sq m) in area or where the height between the sign and the ground exceeds 7 ft (2.1 m).”

### **PRECAST CONCRETE HANDLING HOLES (BDE)**

Effective: January 1, 2007

Add the following to Article 540.02 of the Standard Specifications:

“(g) Handling Hole Plugs 1042.16”

Add the following paragraph after the sixth paragraph of Article 540.06 of the Standard Specifications:

“Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar, or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.”

Add the following to Article 542.02 of the Standard Specifications:

“(ee) Handling Hole Plugs 1042.16”

Revise the fifth paragraph of Article 542.04(d) of the Standard Specifications to read:

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 550.02 of the Standard Specifications:

“(o) Handling Hole Plugs 1042.16”

Replace the fourth sentence of the fifth paragraph of Article 550.06 of the Standard Specifications with the following:

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 602.02 of the Standard Specifications:

“(p) Handling Hole Plugs 1042.16(a)”

Replace the fifth sentence of the first paragraph of Article 602.07 of the Standard Specifications with the following:

“Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.”

Add the following to Section 1042 of the Standard Specifications:

“**1042.16 Handling Hole Plugs.** Plugs for handling holes in precast concrete products shall be as follows.

- (a) Precast Concrete Plug. The precast concrete plug shall have a tapered shape and shall have a minimum compressive strength of 3000 psi (20,700 kPa) at 28 days.
- (b) Polyethylene Plug. The polyethylene plug shall have a “mushroom” shape with a flat round top and a stem with three different size ribs. The plug shall fit snugly and cover the handling hole.

The plug shall be according to the following.

| Mechanical Properties    | Test Method | Value (min.)          |
|--------------------------|-------------|-----------------------|
| Flexural Modulus         | ASTM D 790  | 3300 psi (22,750 kPa) |
| Tensile Strength (Break) | ASTM D 638  | 1600 psi (11,030 kPa) |
| Tensile Strength (Yield) | ASTM D 638  | 1200 psi (8270 kPa)   |

| Thermal Properties    | Test Method | Value (min.)    |
|-----------------------|-------------|-----------------|
| Brittle Temperature   | ASTM D 746  | -49 °F (-45 °C) |
| Vicat Softening Point | ASTM D 1525 | 194 °F (90 °C)” |

**RAISED REFLECTIVE PAVEMENT MARKERS (BDE)**

Effective: November 1, 2009

Revised: April 1, 2010

Revise the first sentence of the second paragraph of Article 781.03(a) of the Standard Specifications to read:

“The pavement shall be cut to match the bottom contour of the marker using a concrete saw fitted with 18 and 20 in. (450 and 500 mm) diameter blades.”

**SEEDING (BDE)**

Effective: July 1, 2004

Revised: July 1, 2010

Revise the following seeding mixtures shown in Table 1 of Article 250.07 of the Standard Specifications to read:

| "Table 1 - SEEDING MIXTURES                 |  |  |
|---|--|--|
| Class – Type                                | Seeds  | lb/acre<br>(kg/hectare)  |
| 1A Salt Tolerant<br>Lawn Mixture 7/         | Bluegrass<br>Perennial Ryegrass<br>Red Fescue<br>(Audubon, Sea Link, or Epic)<br>Hard Fescue<br>(Rescue 911, Spartan II, or Reliant IV)<br>Fulfs Salt Grass 1/ or Salty Alkaligrass  | 60 (70)<br>20 (20)<br>20 (20)<br><br>20 (20)<br><br>60 (70)  |
| 2 Roadside Mixture 7/                       | Tall Fescue<br>(Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV)<br>Perennial Ryegrass<br>Creeping Red Fescue<br>Red Top  | 100 (110)<br><br>50 (55)<br>40 (50)<br>10 (10)   |
| 2A Salt Tolerant<br>Roadside Mixture 7/     | Tall Fescue<br>(Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV)<br>Perennial Ryegrass<br>Red Fescue<br>(Audubon, Sea Link, or Epic)<br>Hard Fescue<br>(Rescue 911, Spartan II, or Reliant IV)<br>Fulfs Salt Grass 1/ or Salty Alkaligrass  | 60 (70)<br><br>20 (20)<br>30 (20)<br><br>30 (20)<br><br>60 (70)  |
| 3 Northern Illinois<br>Slope Mixture 7/     | Elymus Canadensis<br>(Canada Wild Rye)<br>Perennial Ryegrass<br>Alsike Cover 2/<br>Desmanthus Illinoensis<br>(Illinois Bundleflower) 2/, 5/<br>Andropogon Scoparius<br>(Little Bluestem) 5/<br>Bouteloua Curtipendula<br>(Side-Oats Grama)<br>Fulfs Salt Grass 1/ or Salty Alkaligrass<br>Oats, Spring<br>Slender Wheat Grass 5/<br>Buffalo Grass (Cody or Bowie) 4/, 5/, 9/ | 5 (5)<br><br>20 (20)<br>5 (5)<br>2 (2)<br><br>12 (12)<br><br>10 (10)<br><br>30 (35)<br>50 (55)<br>15 (15)<br>5 (5) |
| 6A Salt Tolerant<br>Conservation<br>Mixture | Andropogon Scoparius<br>(Little Bluestem) 5/<br>Elymus Canadensis<br>(Canada Wild Rye) 5/<br>Buffalo Grass (Cody or Bowie) 4/, 5/, 9/<br>Vernal Alfalfa 2/<br>Oats, Spring<br>Fulfs Salt Grass 1/ or Salty Alkaligrass   | 5 (5)<br><br>2 (2)<br><br>5 (5)<br>15 (15)<br>48 (55)<br>20 (20)"  |

Revise Note 7 of Table 1 – Seeding Mixtures of Article 250.07 of the Standard Specifications to read:

“7/ In Districts 1 through 6, the planting times shall be April 1 to June 15 and August 1 to November 1. In Districts 7 through 9, the planting times shall be March 1 to June 1 and August 1 to November 15. Seeding may be performed outside these dates provided the Contractor guarantees a minimum of 75 percent uniform growth over the entire seeded area(s) after a period of establishment. Inspection dates for the period of establishment will be as follows: Seeding conducted in Districts 1 through 6 between June 16 and July 31 will be inspected after April 15 and seeding conducted between November 2 and March 31 will be inspected after September 15. Seeding conducted in Districts 7 through 9 between June 2 and July 31 will be inspected after April 15 and seeding conducted between November 16 and February 28 will be inspected after September 15. The guarantee shall be submitted to the Engineer in writing prior to performing the work. After the period of establishment, areas not exhibiting 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at no additional cost to the Department.”

Revise the first paragraph of Article 1081.04(a) of the Standard Specifications to read:

“(a) Sampling and Testing. Each lot of seed furnished shall be tested by a State Agriculture Department (including other States) or by land grant college or university agricultural sections or by a Registered Seed Technologist. Germination testing of seed shall be accomplished within the 12 months prior to the seed being installed on the project.”

Delete the last sentence of the first paragraph of Article 1081.04(c)(2) of the Standard Specifications.

Revise Table II of Article 1081.04(c)(6) of the Standard Specifications to read:

| TABLE II                  |           |        |           |      |                                   |       |
|---------------------------|-----------|--------|-----------|------|-----------------------------------|-------|
| Variety of Seeds          | Hard Seed | Purity | Pure Live | Weed | Secondary *                       | Notes |
|                           | %         | %      | Seed %    | %    | Noxious Weeds                     |       |
|                           | Max.      | Min.   | Min.      | Max. | No. per oz (kg)<br>Max. Permitted |       |
| Alfalfa                   | 20        | 92     | 89        | 0.50 | 6 (211)                           | 1/    |
| Clover, Alsike            | 15        | 92     | 87        | 0.30 | 6 (211)                           | 2/    |
| Red Fescue, Audubon       | 0         | 97     | 82        | 0.10 | 3 (105)                           | -     |
| Red Fescue, Creeping      | -         | 97     | 82        | 1.00 | 6 (211)                           | -     |
| Red Fescue, Epic          | -         | 98     | 83        | 0.05 | 1 (35)                            | -     |
| Red Fescue, Sea Link      | -         | 98     | 83        | 0.10 | 3 (105)                           | -     |
| Tall Fescue, Blade Runner | -         | 98     | 83        | 0.10 | 2 (70)                            | -     |
| Tall Fescue, Falcon IV    | -         | 98     | 83        | 0.05 | 1 (35)                            | -     |
| Tall Fescue, Inferno      | 0         | 98     | 83        | 0.10 | 2 (70)                            | -     |
| Tall Fescue, Tarheel II   | -         | 97     | 82        | 1.00 | 6 (211)                           | -     |
| Tall Fescue, Quest        | 0         | 98     | 83        | 0.10 | 2 (70)                            | -     |
| Fults Salt Grass          | 0         | 98     | 85        | 0.10 | 2 ( 70)                           | -     |
| Salty Alkaligrass         | 0         | 98     | 85        | 0.10 | 2 (70)                            | -     |
| Kentucky Bluegrass        | -         | 97     | 80        | 0.30 | 7 (247)                           | 4/    |
| Oats                      | -         | 92     | 88        | 0.50 | 2 ( 70)                           | 3/    |
| Redtop                    | -         | 90     | 78        | 1.80 | 5 (175)                           | 3/    |

|                             |   |    |    |      |         |     |
|-----------------------------|---|----|----|------|---------|-----|
| Ryegrass, Perennial, Annual | - | 97 | 85 | 0.30 | 5 (175) | 3/  |
| Rye, Grain, Winter          | - | 92 | 83 | 0.50 | 2 ( 70) | 3/  |
| Hard Fescue, Reliant IV     | - | 98 | 83 | 0.05 | 1 (35)  | -   |
| Hard Fescue, Rescue 911     | 0 | 97 | 82 | 0.10 | 3 (105) | -   |
| Hard Fescue, Spartan II     | - | 98 | 83 | 0.10 | 3 (105) | -   |
| Timothy                     | - | 92 | 84 | 0.50 | 5 (175) | 3/  |
| Wheat, hard Red Winter      | - | 92 | 89 | 0.50 | 2 ( 70) | 3/” |

Revise the first sentence of the first paragraph of Article 1081.04(c)(7) of the Standard Specifications to read:

“The seed quantities indicated per acre (hectare) for Prairie Grass Seed in Classes 3, 3A, 4, 4A, 6, and 6A in Article 250.07 shall be the amounts of pure, live seed per acre (hectare) for each species listed.”

**SELF-CONSOLIDATING CONCRETE FOR PRECAST PRODUCTS (BDE)**

Effective: July 1, 2004

Revised: July 1, 2010

Definition. Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation.

Usage. Self-consolidating concrete may be used for precast concrete products.

Materials. Materials shall be according to Section 1021 of the Standard Specifications.

Mix Design Criteria. The mix design criteria shall be as follows:

- (a) The minimum cement factor shall be according to Article 1020.04 of the Standard Specifications. If the maximum cement factor is not specified, it shall not exceed 7.05 cwt/cu yd (418 kg/cu m).
- (b) The maximum allowable water/cement ratio shall be according to Article 1020.04 of the Standard Specifications or 0.44, whichever is lower.
- (c) The slump requirements of Article 1020.04 of the Standard Specifications shall not apply.
- (d) The coarse aggregate gradations shall be CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 may be used when the Contractor provides satisfactory evidence to the Engineer that the mix will not segregate. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used.
- (e) The slump flow range shall be  $\pm 2$  in. ( $\pm 50$  mm) of the Contractor target value, and within the overall Department range of 20 in. (510 mm) minimum to 28 in. (710 mm) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 4 in. (100 mm). The Contractor may specify a lower maximum in the mix design.

(h) The L-box blocking ratio shall be a minimum of 60 percent. The Contractor may specify a higher minimum in the mix design.

(i) The hardened visual stability index shall be a maximum of 1.

Mixing Portland Cement Concrete. In addition to Article 1020.11 of the Standard Specifications, the mixing time for central-mixed concrete shall not be reduced as a result of a mixer performance test. Truck-mixed or shrink-mixed concrete shall be mixed in a truck mixer for a minimum of 100 revolutions.

Wash water, if used, shall be completely discharged from the drum or container before the succeeding batch is introduced.

The batch sequence, mixing speed, and mixing time shall be appropriate to prevent cement balls and mix foaming for central-mixed, truck-mixed, and shrink-mixed concrete.

Placing and Consolidating. The maximum distance of horizontal flow from the point of deposit shall be 25 ft (7.6 m), unless approved otherwise by the Engineer.

Concrete shall be rodded with a piece of lumber, conduit, or vibrator if the material has lost its fluidity prior to placement of additional concrete. The vibrator shall be the pencil head type with a maximum diameter or width of 1 in. (25 mm). Any other method for restoring the fluidity of the concrete shall be approved by the Engineer.

Mix Design Approval. The Contractor shall obtain mix design approval according to the Department's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products".

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

Effective: April 2, 2005

Revised: April 1, 2011

To account for the preparatory work and operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting according to Article 108.01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be equal to 3 percent of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor's work.

The mobilization payment to the subcontractor is an advance payment of the reported amount of the subcontract and is not a payment in addition to the amount of the subcontract; therefore, the amount of the advance payment will be deducted from future progress payments.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

**TEMPORARY EROSION CONTROL (BDE)**

Effective: November 1, 2002

Revised: January 1, 2011

Add the following to Article 280.02 of the Standard Specifications to read:

- “(k) Filter Fabric ..... 1080.03
- “(l) Urethane Foam/Geotextile ..... 1081.15(i)”

Revise the third paragraph of Article 280.03 of the Standard Specifications to read:

“Erosion control systems shall be installed prior to beginning any activities which will potentially create erodible conditions. Erosion control systems for areas outside the limits of construction such as storage sites, plant sites, waste sites, haul roads, and Contractor furnished borrow sites shall be installed prior to beginning soil disturbing activities at each area. These offsite systems shall be designed by the Contractor and be subject to the approval of the Engineer.”

Add the following paragraph after the third paragraph of Article 280.03 of the Standard Specifications:

“The temporary erosion and sediment control systems shown on the plans represent the minimum systems anticipated for the project. Conditions created by the Contractor’s operations, or for the Contractor’s convenience, which are not covered by the plans, shall be protected as directed by the Engineer at no additional cost to the Department. Revisions or modifications of the erosion and sediment control systems shall have the Engineer’s written approval.”

Revise Article 280.04(a) of the Standard Specifications to read:

“(a) Temporary Ditch Checks. This system consists of the construction of temporary ditch checks to prevent siltation, erosion, or scour of ditches and drainage ways. Temporary ditch checks shall be constructed with products from the Department’s approved list, rolled excelsior, or with aggregate placed on filter fabric when specified. Filter fabric shall be installed according to the requirements of Section 282. Riprap shall be placed according to Article 281.04. Manufactured ditch checks shall be installed according to the manufacturer’s specifications. Spacing of ditch checks shall be such that the low point in the center of one ditch check is at the same elevation as the base of the ditch check immediately upstream. Temporary ditch checks shall be sufficiently long enough that the top of the device in the middle of the ditch is 6 in. (150 mm) lower than the bottom of the terminating ends of the ditch side slopes.

When rolled excelsior is used, each ditch check shall be installed and maintained such that the device is no less than 10 in. (250 mm) high at the point of overflow. Units installed at a spacing requiring a height greater than 10 in. (250 mm) shall be maintained at the height for the spacing at which they were originally installed.”

Revise the last sentence of the first paragraph Article 280.04(b) of the Standard Specifications to read:

“The barrier shall be constructed with rolled excelsior, silt filter fence, or urethane foam/geotextiles.”

Revise the last sentence of the first paragraph of Article 280.04(g) of the Standard Specifications to read:

“The temporary mulch cover shall be installed according to Article 251.03 except for any reference to seeding.”

Add the following to Article 280.04 of the Standard Specifications:

(h) Temporary Erosion Control Blanket. This system consists of temporarily installing erosion control blanket or heavy duty erosion control blanket over areas that are to be reworked during a later construction phase. Work shall be according to Article 251.04 except references to seeding and fertilizer shall not apply. When an area is to be reworked more than once, the blanket shall be carefully removed, properly stored, and then reinstalled over the same area.”

Revise Article 280.07(b) of the Standard Specifications to read:

“(b) Temporary Ditch Checks. This work will be measured for payment along the long axis of the device in place in feet (meters) except for aggregate ditch checks which will be measured for payment in tons (metric tons). Payment will not be made for aggregate in excess of 108 percent of the amount specified by the Engineer.”

Revise Article 280.07(f) of the Standard Specifications to read:

“(f) Temporary Mulch. This work will be measured for payment according to Article 251.05(b).”

Add the following to Article 280.07 of the Standard Specifications:

“(g) Temporary Erosion Control Blanket. This work will be measured for payment in place in square yards (square meters) of actual surface covered.

Add the following paragraph after the ninth paragraph of Article 280.07 of the Standard Specifications:

“Temporary or permanent erosion control systems required for areas outside the limits of construction will not be measured for payment.”

Revise Article 280.08(b) of the Standard Specifications to read:

“(b) Temporary Ditch Checks. This work will be paid for at the contract unit price per foot (meter) for TEMPORARY DITCH CHECKS except for aggregate ditch checks which will be paid for at the contract unit price per ton (metric ton) for AGGREGATE DITCH CHECKS.”

Revise Article 280.08(f) of the Standard Specifications to read:

“(f) Temporary Mulch. Temporary Mulch will be paid for according to Article 251.06.”

Add the following to Article 280.08 of the Standard Specifications:



“(g) Temporary Erosion Control Blanket. Temporary Erosion Control Blanket will be paid for at the contract unit price per square yard (square meter) for TEMPORARY EROSION CONTROL BLANKET or TEMPORARY HEAVY DUTY EROSION CONTROL BLANKET.

The work of removing, storing, and reinstalling the blanket over areas to be reworked more than once will not be paid for separately but shall be included in the cost of the temporary erosion control blanket or temporary heavy duty erosion control blanket.”

Delete the tenth (last) paragraph of Article 280.08 of the Standard Specifications.

Revise the second sentence of the first paragraph of Article 1081.15(e) of the Standard Specifications to read:

“The upstream facing of the aggregate ditch check shall be constructed of gradation CA 3. The remainder of the ditch check shall be constructed of gradation RR 3.”

Revise Article 1081.15(f) of the Supplemental Specifications to read:

“(f) Rolled Excelsior. Rolled excelsior shall consist of an excelsior fiber filling totally encased inside netting and sealed with metal clips or knotted at the ends. The fiber density shall be a minimum of 1.24 lb/cu ft (20 kg/cu m) based on a moisture content of 22 percent at manufacturing. The netting shall be composed of a polyester or polypropylene material which retains 70 percent of its strength after 500 hours of exposure to sunlight. The maximum opening of the net shall be 1 x 1 in. (25 x 25 mm).”

Add the following to Article 1081.15 of the Standard Specifications:

“(i) Urethane Foam/Geotextile. Urethane foam/geotextile shall be triangular shaped having a minimum height of 10 in. (250 mm) in the center with equal sides and a minimum 20 in. (500 mm) base. The triangular shaped inner material shall be a low density urethane foam. The outer cover shall be a woven geotextile fabric placed around the inner material and allowed to extend beyond both sides of the triangle a minimum of 18 in. (450 mm).

(1) The geotextile shall meet the following properties:

| Property                               | Value           | Test Method |
|--|-----------------|-------------|
| Grab Tensile Strength<br>lb (N) (min.) | 124 (550) min.  | ASTM D 4632 |
| Grab Elongation @ Brake (percent)      | 15 min.         | ASTM D 4632 |
| Burst Strength psi (kPa)               | 280 (1930) min. | ASTM D 3786 |
| AOS (Sieve No.)                        | 30 min.         | ASTM D 4751 |
| UV Resistance (500 hours) (percent)    | 80 min.         | ASTM D 4355 |

(2) The urethane foam shall meet the following properties:

| Property                      | Value                  | Test Method  |
|-------------------------------|------------------------|--------------|
| Density lb/cu ft (kg/cu m)    | 1.0 ± 0.1 (16.0 ± 1.6) | ASTM D 3574  |
| Tensile Strength psi (kPa)    | 10 (70) min.           | ASTM D 3574  |
| Elongation (percent)          | 125 min.               | ASTM D 3574  |
| Tear Resistance lb/in. (N/mm) | 1.25 (0.22)            | ASTM D 3574” |

**TRAFFIC BARRIER TERMINAL, TYPE 6 (BDE)**

Effective: January 1, 2010

Delete the fourth paragraph of Article 631.07 of the Standard Specifications.

**TRAFFIC CONTROL SURVEILLANCE (BDE)**

Effective: January 1, 2011

Revise the first sentence of the first paragraph of Article 701.10 of the Standard Specifications to read:

“When open holes, broken pavement, trenches over 3 in. (75 mm) deep and 4 in. (100 mm) wide or other hazards are present within 8 ft (2.4 m) of the edge of an open lane, the Contractor shall furnish traffic control surveillance during all hours when the Contractor is not engaged in construction operations.”

**TRUCK MOUNTED/TRAILER MOUNTED ATTENUATORS (BDE)**

Effective: January 1, 2010

Revise Article 701.03(k) of the Standard Specifications to read:

“(k) Truck Mounted/Trailer Mounted Attenuators ..... 1106.02”

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

“(h) Truck Mounted/Trailer Mounted Attenuators (TMA). TMA units shall have a roll ahead distance in the event of an impact. The TMA shall be between 100 and 200 ft (30 and 60 m) behind the vehicle ahead or the workers. This distance may be extended by the Engineer.

TMA host vehicles shall have the parking brake engaged when stationary.

The driver and passengers of the TMA host vehicle should exit the vehicle if the TMA is to remain stationary for 15 minutes or more in duration.”

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

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be a NCHRP 350 approved unit for Test Level 3. Test Level 2 may be used as directed by the Engineer for normal posted speeds less than or equal to 45 mph.”

**UTILITY COORDINATION AND CONFLICTS (BDE)**

Effective: April 1, 2011

Revise Article 105.07 of the Standard Specifications to read:

“**105.07 Cooperation with Utilities.** The Department reserves the right at any time to allow work by utilities on or near the work covered by the contract.

The Contractor shall conduct his/her work so as not to interfere with or hinder the progress or completion of the work being performed by utilities. The Contractor shall also arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of utility work in the area.

The Contractor shall cooperate with the owners of utilities in their removal and rearrangement operations so work may progress in a reasonable manner, duplication or rearrangement of work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.

The Contractor shall coordinate with any planned utility adjustment or new installation and the Contractor shall take all precautions to prevent disturbance or damage to utility facilities. Any failure on the part of the utility owner, or their representative, to proceed with any planned utility adjustment or new installation shall be reported promptly by the Contractor to the Engineer.”

Revise the first sentence of the last paragraph of Article 107.19 of the Standard Specifications to read:

“When the Contractor encounters unexpected regulated substances due to the presence of utilities in unanticipated locations, the provisions of Article 107.40 shall apply; otherwise, if the Engineer does not direct a resumption of operations, the provisions of Article 108.07 shall apply.”

Revise Article 107.31 of the Standard Specification to read:

**“107.31 Reserved.”**

Add the following four Articles to Section 107 of the Standard Specifications:

**“107.37 Locations of Utilities within the Project Limits.** All known utilities existing within the limits of construction are either indicated on the plans or visible above ground. For the purpose of this Article, the limits of proposed construction are defined as follows:

(a) Limits of Proposed Construction for Utilities Paralleling the Roadway.

- (1) The horizontal limits shall be a vertical plane, outside of, parallel to, and 2 ft (600 mm) distant at right angles from the plan or revised slope limits.

In cases where the limits of excavation for structures are not shown on the plans, the horizontal limits shall be a vertical plane 4 ft (1.2 m) outside the edges of structure footings or the structure where no footings are required.

- (2) The upper vertical limits shall be the regulations governing the roadbed clearance for the specific utility involved.
- (3) The lower vertical limits shall be either the top of the utility at the depth below the proposed grade as prescribed by the governing agency or the limits of excavation, whichever is less.

(b) Limits of Proposed Construction for Utilities Crossing the Roadway in a Generally Transverse Direction.

- (1) Utilities crossing excavations for structures that are normally made by trenching such as sewers, underdrains, etc. and all minor structures such as manholes, inlets, foundations for signs, foundations for traffic signals, etc., the limits shall be the space to be occupied by the proposed permanent construction, unless otherwise required by the regulations governing the specific utility involved.
- (2) For utilities crossing the proposed site of major structures such as bridges, sign trusses, etc., the limits shall be as defined above for utilities extending in the same general direction as the roadway.

It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utilities in their present and/or adjusted positions as indicated in the contract. It is further understood the actual location of the utilities may be located anywhere within the tolerances provided in 220 ILCS 50/2.8 or Administrative Code Title 92 Part 530.40(c), and the proximity of some utilities to construction may require extraordinary measures by the Contractor to protect those utilities.

No additional compensation will be allowed for any delays, inconveniences, or damages sustained by the Contractor due to the presence of or any claimed interference from known utility facilities or any adjustment of them, except as specifically provided in the contract.

**107.38 Adjustments of Utilities within the Project Limits.** The adjustment of utilities consists of the relocation, removal, replacement, rearrangements, reconstruction, improvement, disconnection, connection, shifting, new installation, or altering of an existing utility facility in any manner.

Utilities which are to be adjusted shall be adjusted by the utility owner or the owner's representative or by the Contractor as a contract item. Generally, arrangements for adjusting known utilities will be made by the Department prior to project construction; however, utilities will not necessarily be adjusted in advance of project construction and, in some cases, utilities will not be removed from the proposed construction limits as described in Article 107.37. When utility adjustments must be performed in conjunction with construction, the utility adjustment work will be indicated in the contract.

The Contractor may make arrangements for adjustment of utilities indicated in the contract, but not scheduled by the Department for adjustment, provided the Contractor furnishes the Department with a signed agreement with the utility owner covering the adjustments to be made. The cost of any such adjustments shall be the responsibility of the Contractor.

**107.39 Contractor's Responsibility for Locating and Protecting Utility Property and Services.** At points where the Contractor's operations are adjacent to properties or facilities of utility companies, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

Within the State of Illinois, a State-Wide One Call Notice System has been established for notifying utilities. Outside the city limits of the City of Chicago, the system is known as the Joint Utility Locating Information for Excavators (JULIE) System.

Within the city limits of the City of Chicago the system is known as DIGGER. All utility companies and municipalities which have buried utility facilities in the State of Illinois are a part of this system.

The Contractor shall call JULIE (800-892-0123) or DIGGER (312-744-7000), a minimum of 48 hours in advance of work being done in the area, and they will notify all member utility companies involved their respective utility should be located.

For utilities which are not members of JULIE or DIGGER, the Contractor shall contact the owners directly. The plan general notes will indicate which utilities are not members of JULIE or DIGGER.

The following table indicates the color of markings required of the State-Wide One Call Notification System.

| <b>Utility Service</b>                        | <b>Color</b>                                       |
|---|--|
| Electric Power, Distribution and Transmission | Safety Red   |
| Municipal Electric Systems                    | Safety Red   |
| Gas Distribution and Transmission             | High Visibility Safety Yellow                      |
| Oil Distribution and Transmission             | High Visibility Safety Yellow                      |
| Telephone and Telegraph System                | Safety Alert Orange                                |
| Community Antenna Television Systems          | Safety Alert Orange                                |
| Water Systems                                 | Safety Precaution Blue                             |
| Sewer Systems                                 | Safety Green                                       |
| Non-Potable Water and Slurry Lines            | Safety Purple                                      |
| Temporary Survey                              | Safety Pink  |
| Proposed Excavation                           | Safety White<br>(Black when snow is on the ground) |

The State-Wide One Call Notification System will provide for horizontal locations of utilities. When it is determined that the vertical location of the utility is necessary to facilitate construction, the Engineer may make the request for location from the utility after receipt of notice from the Contractor. If the utility owner does not field locate their facilities to the satisfaction of the Engineer, the Engineer will authorize the Contractor in writing to proceed to locate the facilities in the most economical and reasonable manner, subject to the approval of the Engineer, and be paid according to Article 109.04.

The Contractor shall be responsible for maintaining the excavations or markers provided by the utility owners.

The Contractor shall take all necessary precautions for the protection of the utility facilities. The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Whenever any damage or destruction of a utility facility occurs as a result of work performed by the Contractor, the utility company will be immediately notified. The utility company will make arrangements to restore such facility to a condition equal to that existing before any such damage or destruction was done.

In the event of interruption of utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the said authority in the restoration of service. If water service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

**107.40 Conflicts with Utilities.** Except as provided hereinafter, the discovery of a utility in an unanticipated location will be evaluated according to Article 104.03. It is understood and agreed that the Contractor has considered in the bid all facilities not meeting the definition of a utility in an unanticipated location and no additional compensation will be allowed for any delays, inconveniences, or damages sustained by the Contractor due to the presence of or any claimed interference from such facilities.

When the Contractor discovers a utility in an unanticipated location, the Contractor shall not interfere with said utility, shall take proper precautions to prevent damage or interruption of the utility, and shall promptly notify the Engineer of the nature and location of said utility.

- (a) Definition. A utility in an unanticipated location is defined as an active or inactive utility, which is either:
- (1) Located underground and (a) not shown in any way in any location on the contract documents; (b) not identified in writing by the Department to the Contractor prior to the letting; or (c) not located relative to the location shown in the contract within the tolerances provided in 220 ILCS 50/2.8 or Administrative Code Title 92 Part 530.40(c); or
  - (2) Located above ground or underground and not relocated as provided in the contract.

Service connections shall not be considered to be utilities in unanticipated locations.

- (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 applicable to the utility 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 Contractor's operation is completely stopped by a utility in an unanticipated location for more than two hours, but not to exceed three weeks.
  - (2) Major Delay. A major delay occurs when the Contractor's operation is completely stopped by a utility in an unanticipated location for more than three weeks.
  - (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the contractor's rate of production decreases by more than 25 percent and lasts longer than seven days.
- (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 will be paid for according to Article 109.04(b)(4). The length of time paid for will be the time between start of delay and eight hours working time from start of shift being worked.

For delays exceeding the initial shift, excluding Saturdays, Sundays, and holidays, Contractor-owned equipment idled by the delay which cannot be used on other work and remaining at the work site, will be paid at one-half the rate permitted in Article 109.04(b)(4) using a maximum eight hours per day for computation purposes. Equipment rented from an independent source will be paid at rates being paid by the Contractor plus move-in move-out costs, but the total amount paid will not exceed three weeks rental.

- (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 three weeks plus the cost of move-out to either the Contractor's yard or another job, whichever is less. Rental equipment may be paid for longer than three 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 days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Whether covered by (1), (2) or (3) above, additional traffic control required as a result of the operation(s) delayed will be paid for according to Article 109.04 for the total length of the delay.

If the delay is clearly shown to have caused work, which would have otherwise been completed, to be done after material or labor costs have increased, such increases may be paid. Payment for materials will be limited to increased cost substantiated by documentation furnished by the Contractor. Payment for increased labor rates will include those items in Article 109.04(b)(1) and (2), except the 35 percent and ten percent additives will not be permitted. On a working day contract, a delay occurring between November 30 and May 1, when work has not started, will not be considered as eligible for payment of measured labor and material costs.

Project overhead (not including interest) will be allowed when all progress on the contract has been delayed, and will be calculated as 15 percent of the delay claim.

- (d) Other Obligations of Contractor. Upon payment of a claim 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.”

**BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)**

Effective: November 2, 2006

Revised: April 1, 2009

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and pavement preservation type surface treatments. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, or joint filling/sealing.

The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

- Where: CA = Cost Adjustment, \$.
- BPI<sub>P</sub> = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
- BPI<sub>L</sub> = Bituminous Price Index, as published by the Department for the month prior to the letting, \$/ton (\$/metric ton).
- %AC<sub>V</sub> = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC<sub>V</sub> will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC<sub>V</sub> and undiluted emulsified asphalt will be considered to be 65% AC<sub>V</sub>.
- Q = Authorized construction Quantity, tons (metric tons) (see below).



For HMA mixtures measured in square yards:  $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$ . For HMA mixtures measured in square meters:  $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 24.99) / 1000$ . When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different  $G_{mb}$  and  $\% AC_V$ .

For bituminous materials measured in gallons:  $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$   
For bituminous materials measured in liters:  $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

Where: A = Area of the HMA mixture, sq yd (sq m).  
D = Depth of the HMA mixture, in. (mm).  
 $G_{mb}$  = Average bulk specific gravity of the mixture, from the approved mix design.  
V = Volume of the bituminous material, gal (L).  
SG = Specific Gravity of bituminous material as shown on the bill of lading.

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

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

## RETURN WITH BID

### ILLINOIS DEPARTMENT OF TRANSPORTATION

### OPTION FOR BITUMINOUS MATERIALS COST ADJUSTMENTS

The bidder shall submit this completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments. After award, this form, when submitted, shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract?

Yes  No

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)**

Effective: April 2, 2004

Revised: April 1, 2009

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

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

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

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

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

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

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

SCA = Q X D

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

$$D = MPI_M - MPI_L$$

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

$MPI_L$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

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

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

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

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

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

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

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

**Attachment**

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

## RETURN WITH BID

### ILLINOIS DEPARTMENT OF TRANSPORTATION

### OPTION FOR STEEL COST ADJUSTMENT

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

#### **Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following items of work?

|  |     |                          |
|--|-----|--------------------------|
| Metal Piling   | Yes | <input type="checkbox"/> |
| Structural Steel   | Yes | <input type="checkbox"/> |
| Reinforcing Steel  | Yes | <input type="checkbox"/> |
| Dowel Bars, Tie Bars and Mesh Reinforcement                | Yes | <input type="checkbox"/> |
| Guardrail  | Yes | <input type="checkbox"/> |
| Steel Traffic Signal and Light Poles, Towers and Mast Arms | Yes | <input type="checkbox"/> |
| Metal Railings (excluding wire fence)                      | Yes | <input type="checkbox"/> |
| Frames and Grates  | Yes | <input type="checkbox"/> |

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## AUTHORIZATION FOR INCIDENTAL TAKE IMPLEMENTING AGREEMENT

### Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5) the Illinois Department of Transportation's (IDOT) authorization for the incidental take of the State threatened slippershell mussel (*Alasmidonta viridis*) in McHenry County, Illinois [associated with the FAP 303/IL. 173 Road-Bridge project] is hereby granted, subject to the terms and conditions described in the attached Authorization and Implementing Agreement. The Illinois Department of Natural Resources has determined that this authorized take is incidental to the construction/replacement of the IL. 173 bridge, over Nippersink Creek, in McHenry County, Illinois.

#### Procedural History

IDOT prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and IDOT's request for authorization for the incidental take of slippershell mussels were received by the Illinois Department of Natural Resources (Department) on 26 October 2009. Public notice of IDOT's request for authorization of incidental take of slippershell mussels was published in the Arlington Heights Daily Herald (Official State newspaper) and The Northwest Herald (local circulation) on November 27, December 3, as well as on December 10, 2009. Public comments on IDOT's conservation plan were accepted by the Department until January 11, 2010. No comments were received by the public during the period of November 27, 2009 through January 11, 2010.

#### Compliance with the Endangered Species Protection Act

The Illinois Endangered Species Protection Act includes six (6) criteria which must be met for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each criteria are listed below.

1. The taking will not be the purpose of, but will only be incidental to, the carrying out of an otherwise lawful activity:

The project is for the reconstruction of the Nippersink Creek Bridge (Structure No. 056-0029) located in McHenry County, approximately 1.50 miles west of the Village of Hebron. The bridge is located on Illinois Route 173 (IL Rt 173) in the southwest quarter of Section 18 of T46N, R17E at latitude 42.4626° N, longitude 88.4673° W. Nippersink Creek is a tributary to the Fox River (Illinois River drainage).

The project is for the removal and replacement of the existing structure over Nippersink Creek. The bridge was constructed in 1931 and widened to its current size in 1975. The existing bridge is a two-span precast, prestressed concrete (P.P.C.) deck beam bridge with an abutment length of 75'-9<sup>5</sup>/<sub>8</sub>" NS and a total width of 41'-0". The substructure consists of two vertical high walls, reinforced concrete abutments, four reinforced concrete wing walls and one reinforced concrete solid wall pier. The existing structure has been widened once with the widened sections of the substructure being supported on piles and the original sections supported on spread footings.

The new structure will be on the existing alignment and will be a single span design with a superstructure consisting of 42" P.P.C. I-Beams, an 8" reinforced concrete deck, and standard F-shaped concrete parapets on each side of the bridge. The proposed structure has a back of abutment to back of abutment length of 77'-7" with an out to out width of 47'-2" and a clear roadway bridge width of 44'-0". The substructure will consist of integral abutments supported on H-piles with a rip-rap slope protection system.

The proposed scope of work calls for the complete replacement of the structure spanning Nippersink Creek. There is currently no slope protection in place at this bridge and the creek bed extends up to meet the west abutment. The east abutment is located adjacent to an existing wetland. The pier falls partially within the limits of Nippersink Creek and the adjacent wetland. The project will include removal of the substructure elements and complete removal of the abutments. Possibilities for removal of the pier include complete removal, abandoning the pier in place, removing the pier to the water level, or removing the pier to the streambed. No channel excavation work is anticipated. It is possible that clean fill may be required to provide a temporary platform for cofferdam construction and substructure removal.

The potential for take would come from activities associated with the construction of a new bridge over Nippersink Creek. These activities consist of the removal of the existing abutments, the potential removal of the existing bridge pier, the temporary installation of cofferdams from which the work will occur, and embankment work. It is possible that clean fill may be required to provide a temporary platform for the cofferdam construction and substructure removal.

The anticipated adverse effects include:

- 1) Slippershell mussels may be crushed or entombed by equipment or piers.
- 2) Short term water quality impacts due to erosion and sedimentation during construction work.
- 3) Continuation of the existing potential for degradation of habitat associated with runoff and salt spray from the bridge deck.



The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking.

The project will result in minimal wetland impacts. Wetland Site #1 (as shown in the Conservation Plan) is located along the east bank of Nippersink Creek, south and north of IL Rt 173, and currently falls underneath span 2 of the existing bridge. The area of this wetland that will be impacted is approximately 0.083 acres. The wetland has a Floristic Quality Index (FQI) of 10.9 and a mean C value of 2.6, indicating a low quality wetland. The layout of the proposed new structure places the east abutment and the rip-rap embankment cone within this wetland.

The Illinois Environmental Protection Agency/Illinois Department of Natural Resources Biological Stream Characterization (BSC) Work Group rates Nippersink Creek as a Class B (highly valued aquatic resource) stream based on the stream's fishery and macroinvertebrate data. Nippersink Creek on the south side of IL Rt 173 is identified as a high habitat value wetland by the McHenry County Illinois Advanced Identification Study (ADID).

Surveys were conducted in Nippersink Creek by the Illinois Natural History Survey (INHS) on August 7, 2008; the INHS team examined a 150 meter stretch of the creek. INHS describes the Nippersink Creek in this vicinity as having an average width of 6-8 meters, with depths ranging from 0.1 to 0.7 meters. The substrate is predominantly silted sand with small patches of gravel and cobble in the riffles and firm sand/mud in the pools. Shallow riffle habitat was found at, immediately upstream, and immediately downstream of the bridge. A portion of the stream banks is tree-lined, while the rest is lined with grass.

The property located within the road and bridge right-of-way is owned by the Illinois Department of Transportation (IDOT).

The formal conservation plan prepared by IDOT, and received by the Department on 26 October 2009, stated that freshwater mussel surveys, and subsequent relocations, would be conducted prior to initiation of bridge construction/repair. All mussels observed (listed or non-listed species) are to be relocated in order to minimize impacts.

Mussel surveys will be conducted using standard survey techniques including searching by feel to methodically cover the area to be disturbed by the project (viewing boxes, wading in shallow water, SCUBA in deeper water-if applicable, although not likely with this project). All mussels found will be identified to species. Mussels will be relocated into areas of suitable habitat, in the same stream/river, preferably upstream of the construction site. Specifically, the transplant site will be close to the collection area and have similar to better water quality and substrate.

The ecological staff/freshwater mussel consultant conducting this mussel relocation effort shall have extensive experience with Midwestern mussels. The mussel consultant will provide the Department with a report detailing the results of all mussel surveys and relocation efforts within 60 days of completing all surveys/relocations. In summary, mussel surveys and related relocations will occur only after Department authorization and prior to any construction activities.

During construction, the piers will be installed using cofferdams. The use of cofferdams will minimize any sedimentation that enters the water, thereby reducing water quality impacts and potential impacts to mussels. No new structures will be constructed within the limits of Nippersink Creek because the new bridge is a single span design and does not require a pier within the creek.

Super silt fencing will be used adjacent to the road work. Super silt fencing consists of chain link fencing with silt fencing attached; the chain link fencing adds stability to the silt fencing. This use of super silt fencing will also reduce the amount of siltation that enters Nippersink Creek.

These measures discussed above should minimize the amount of habitat that is affected. Permanent loss of habitat is likely restricted to the areas adjacent to the abutments that will have riprap placed for scour protection.

3. The parties to the conservation plan will ensure that adequate funding for the conservation plan will be provided:

This project is authorized by the Illinois Department of Transportation/IDOT, which receives funding from the Illinois General Assembly and the Federal Government in carrying out its programs. In addition, the Illinois Department of Transportation, exclusively abides by the National Environmental Policy Act (NEPA) and all associated state and federal environmental laws in carrying out its mission of performing the most environmentally sensitive methods of transportation planning and engineering.

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of the survival or recovery of the endangered species or threatened species in the wild in Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois:

Construction and repair/replacement of the IL. Route 173 (FAP 303) bridge over Nippersink Creek in McHenry County, Illinois will most likely not reduce the likelihood of the survival of state-listed threatened or endangered mussels in Illinois. For the purposes of biological comparison, it should be noted that the freshwater mussel fauna of the Fox River and its tributaries in Illinois and Wisconsin were surveyed by Department staff during the summers of 1997-2001. A total of 3,585 live individuals comprised of 23 species were collected from 96 sampling stations. Of this total, 31 slippershell mussels (*Alasmidonta viridis*) were collected.

The slippershell (*Alasmidonta viridis*) was historically widespread in the northern half of Illinois but has since been reduced to widely scattered populations throughout its range. The slippershell was found alive at three sites (3) in the upper part of the Little Vermilion River in 1997. The only live records for this species in the adjacent Vermilion River basin to the north were collected from Bean Creek (Middle Fork Drainage) in 1989 per the INHS, 1998.

Throughout North America, the slippershell mussel (*Alasmidonta viridis*) is known from the upper Mississippi, Ohio, Cumberland, and Tennessee river drainages and lower and middle sections of the St. Lawrence. In Illinois, it is known from the Sangamon, Kankakee, Vermilion, and Little Vermilion river systems. This mussel inhabits small to medium sized streams where it is usually found buried in sandy substrates in shallow water.

Unfortunately, the slippershell now has a restricted distribution in Illinois, and its numbers have been reduced most likely as a result of increased siltation and channelization in small to medium sized streams throughout the state. Any live animals that are overlooked during the relocation effort could be at risk of injury or death as a result of construction activities.

The relocation of all mussels encountered will make it unlikely that a significant number of individuals will be exposed to threats related to the construction and repair/replacement of the IL. Route 173 (FAP 303) bridge over Nippersink Creek in McHenry County.

As stated in the April 1996 Technical Report (working draft) titled - "Measures to minimize harm to *Lampsilis higginsii* [federally endangered Higgins Eye mussel] caused by passage of commercial navigation vessels in the upper Mississippi River" [prepared by the U.S. Army Corps of Engineers-Waterways Experiment Station]:

Relocation is one of several methods that can be used to protect freshwater mussels. Relocation can be used to recolonize areas where previous populations were extirpated, to remove mussels from proposed construction sites, to boost numbers of endangered species, or to protect against high densities of the zebra mussel (*Dreissena polymorpha*). The survival of relocated mussels is closely linked to habitat quality.

Relocation sites should have the same conditions of substratum type and stability, and water velocity as the original habitat. Research from the federally endangered Higgins Eye mussel (*Lampsilis higginsii*) recovery team, under the guidance of the United States Fish and Wildlife Service, has determined that minimal mortality (<12%) and high recovery rate (>88%) were shown when aerial exposure of mussels was less than four (4) hours and when relocations were conducted in spring or autumn when air (12-18 C) and water temperature (15-23 C) were moderate.

The project will more than likely have minimal impacts on the surrounding ecosystem. There will be no piers placed within Nippersink Creek. The existing pier will be removed, resulting in the restoration of mussel habitat where the pier currently exists. Impacts to adjacent wetlands will be minimal and will result in the loss of 0.083 acre of wetland; this small amount is not expected to cause an effect because sufficient wetlands remain to filter out salt spray and runoff associated with stormwater prior to discharging into Nippersink Creek.

Lastly, IDOT's Bureau of Design and Environmental Manual (2002); Landscape Design and Erosion Control criteria and Specification 280: Temporary Erosion Control shall be used during this project. The methodologies described in these documents utilize the latest techniques in sediment and erosion control design and implementation.

5. Any measures required under Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], will be performed:

Additional measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and official IDOT signature(s) on this authorization indicates their commitment to performing those measures.

6. The public has received notice of the application and has had the opportunity to comment before the Department made any decision regarding the application:

IDOT prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and IDOT's request for authorization for the incidental take of slippershell mussels were received by the Illinois Department of Natural Resources (Department) on 26 October 2009. Public notice of IDOT's request for authorization of incidental take of slippershell mussels was published in the Arlington Heights Daily Herald (Official State newspaper) and The Northwest Herald (local circulation) on November 27, December 3, as well as on December 10, 2009. Public comments on IDOT's conservation plan were accepted by the Department until January 11, 2010. No comments were received by the public during the period of November 27, 2009 through January 11, 2010.

#### Authorization

It is the determination of the Department that the measures to be implemented by IDOT will adequately minimize and mitigate for the anticipated taking (relocation) of a small number of slippershell mussels due to the construction and repair/replacement of the IL. Route 173 (FAP 303) bridge over Nippersink Creek in McHenry County. Further, it is our opinion that the take (relocation) authorized herein would not diminish the likelihood of the survival of the slippershell mussel in the wild within the State of Illinois, the biotic community of which the species is a part or the habitat essential to the species' existence in Illinois.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], this authorization is issued subject to the following additional terms and conditions:

1. This authorization is effective upon signature of the Department and shall remain in effect for a period of six (6) years after the official "project completion date". "Completion" shall be defined as the date the IL. Route 173/FAP 303 bridge is officially open for public use. This authorization is effective unless terminated pursuant to Section 5.5. of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.80].

2. Prior to demolition/repair of the existing bridge and construction of the new the IL. Route 173 (FAP 303) bridge over Nippersink Creek in McHenry County, IDOT shall conduct/facilitate, or cause to be conducted, a thorough survey of the reach of the affected portion of Nippersink Creek that will be directly affected by bridge construction activities and shall relocate any and all (listed or non-listed species) freshwater mussels found within the area that will be directly affected by the bridge replacement to suitable habitat, preferably upstream, of the project site.

Handling of mussels shall be in compliance with any and all conditions and/or protocols included in the state and/or federal authorizations for this work. Relocated mussels shall be identified to species and enumerated. A report on the species and numbers of mussels relocated and the location(s) at which they were released shall be provided to the Department within 60 days of completion of the relocation.

3. IDOT shall conduct/facilitate, or cause to be conducted, a thorough survey of both the construction area (within existing right-of-way) and the mussel relocation site(s) for freshwater mussels in the fifth (5<sup>th</sup>) year following completion of bridge construction. "Completion" shall be defined as the date the bridge is officially open for public use. For example, if the IL. Route 173/FAP 303 bridge is completed in 2010, this survey shall be conducted in 2015. Freshwater mussels located within the construction right-of-way and relocation site(s) shall be identified to species and enumerated and the length of each mussel shall be measured to the nearest millimeter. Handling of mussels shall be in compliance with any and all conditions and/or protocols included in the state and/or federal authorizations for this work. A report on the species, numbers, and sizes of mussels found shall be provided to the Department within 60 days of the completion of this survey. This report shall also include a qualitative evaluation of the habitat for freshwater mussels being provided by the construction right-of-way area and the relocation site(s) and the manner in which that habitat has changed since the initial bridge construction project.

4. All mussels encountered within the State of Illinois during this project shall be subject to the general U.S. Fish and Wildlife Service handling protocol for determining presence/absence of species as found in "Section H" of the attached Federal Fish and Wildlife document.

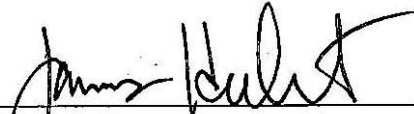
5. Specified IDOT erosion and sediment control practices for this project (IL. Route 173/FAP 303 - McHenry County) shall be implemented. IDNR recommends that inspections to ensure proper working order and maintenance of practices be made daily by local engineering staff. IDNR also recommends that additional inspections be made immediately prior to and following events of heavy rain for the area. If through daily monitoring, eroded soil is observed leaving the job-site or limits of construction, additional soil conserving practices, shall be installed in order to minimize soil erosion.

6. The effective period of this authorization may be altered by mutual agreement between IDOT and the Department.

7. This authorization may be revoked pursuant to Section 5.5 of the Act if the Department finds that IDOT has failed to comply with any of these terms and conditions or has been responsible for the take of any slippershell mussels beyond that which is incidental to the construction and repair/replacement of the IL. Route 173/FAP 303 bridge over Nippersink Creek in McHenry County.

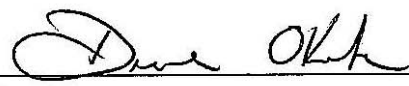
8. The IDOT official identified below is authorized to execute this agreement. Execution by IDOT indicates acceptance of all terms and conditions described in this document.

For the IL. Department of Natural Resources

  
\_\_\_\_\_  
Dr. Jim Herkert, Director  
IDNR Office of Resource Conservation

4.29.10  
\_\_\_\_\_  
Date Signed

For the IL. Department of Transportation/IDOT

  
\_\_\_\_\_  
Signature

DAVE OKUN  
REGIONAL ENGINEER  
\_\_\_\_\_  
Please print name and official title

4-13-10  
\_\_\_\_\_  
Date Signed

USACOE 404 PERMIT



REPLY TO  
ATTENTION OF:

Technical Services Division  
Regulatory Branch  
LRC-2010-00438

DEPARTMENT OF THE ARMY  
CHICAGO DISTRICT, CORPS OF ENGINEERS  
111 NORTH CANAL STREET  
CHICAGO, ILLINOIS 60606-7206

RECEIVED  
JAN 31 2011

*cal  
2-1-11  
aif*

January 26, 2011

**DIST. ONE - DESIGN**

SUBJECT: Replacement of the Illinois Route 173 Bridge over Nippersink Creek located West of Hebron, McHenry County, Illinois

Diane O'Keefe  
Illinois Department of Transportation  
Division of Highways / District 1  
Schaumburg, Illinois 60196

Dear Ms. O'Keefe:

The U.S. Army Corps of Engineers, Chicago District, has completed its review of your notification for authorization under the Regional Permit Program (RPP). This office has verified that your proposed activity complies with the terms and conditions of Regional Permit 3 (Transportation Projects) and 7 (Temporary Construction Activities) and the overall RPP under Category I of the Regional Permit Program dated April 1, 2007. The activity may be performed without further authorization from this office provided the activity is conducted in compliance with the terms and conditions of the RPP.

This verification is valid until the RPP is modified, reissued, or revoked. The RPP is scheduled to be modified, reissued, or revoked prior to April 1, 2012. We will issue a public notice when the Regional Permits are reissued so it is incumbent upon you to remain informed of changes to the RPP when they occur. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant regional permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the RPP to complete the activity under the present terms and conditions of this regional permit(s).

This verification covers only your activity as described in your notification and as shown on the plans entitled "Proposed Highway Plans - FAP Route 303 (IL Route 173) - Section 132B-2 - over Nippersink Creek - Bridge Replacement - Project No. - McHenry County - C-91-012-10" dated December 14, 2010, prepared by Wills Burke Kelsey Associates. Caution must be taken to prevent construction materials and activities from impacting waters of the United States beyond the scope of this authorization. If you anticipate changing the design or location of the activity, you should contact this office to determine the need for further authorization.

As part of the soil erosion and sediment control (SESC) process, you are required to retain a qualified Independent SESC Inspector (ISI) to review the project's SESC plans and provide a detailed narrative that explains the measures to be implemented at the project site. The



ISI is also required to perform site inspections of the implemented SESC measures to ensure proper installation and regular maintenance of the approved methods.

This authorization is contingent upon implementing and maintaining soil erosion and sediment controls in a serviceable condition throughout the duration of the project. Throughout the duration of the project, you shall comply with the project's soil erosion and sediment control (SESC) plans and the installation and maintenance requirements of the SESC practices on-site. You shall notify this office any changes or modifications to the approved plan set. Please be aware that field conditions during project construction may require the implementation of additional SESC measures for further protection of aquatic resources. If you fail to implement corrective measures, this office may require more frequent site inspections to ensure the installed SESC measures are acceptable. Please be aware that work authorized herein may not commence until you receive written notification from this office that your plans meet technical standards.

The following ISI process is a requirement of your permit:


1. You shall retain a qualified SESC inspector to perform periodic inspections of the implemented SESC measures to ensure proper installation and regular maintenance of the approved methods. The contact information for the Independent SESC Inspector (ISI) shall be submitted to this office via e-mail and/or hard copy prior to commencement of the proposed work;
2. Provide prior notification to a representative of this office and to the designated Independent SESC Inspector of the pre-construction meeting at least 10 calendar days in advance. The meeting shall be held to review the Corps' approved SESC plans and if applicable, to discuss any necessary changes as required;
3. The SESC inspector shall submit digital photographs of the SESC measures to the Corps on a weekly basis during the active and non-active phases of construction that represent the existing conditions of the site. Photographs shall also be submitted at completion of the project once the SESC measures have been removed and the work area has been restored to pre-construction conditions; and
4. You shall contact this office immediately in the event of non-compliance, failure and/or inadequacy of an existing SESC method. Upon direction of the Corps, corrective measure shall be instituted at the site to correct the situation. Additional SESC measures may be needed to ensure further protection of the resource including all jurisdictional areas.
5. Prior to commencement of work in jurisdictional areas, you shall submit to this office an in-stream work plan and a narrative discussing the contractor's preferred method of cofferdam. Work in the waterway shall not commence until this office notifies you, in writing, that the plans have been approved. Please be informed that SESC to be utilized throughout the project area shall be reviewed in conjunction with the in-stream work plan.

This verification does not obviate the need to obtain all other required Federal, state, or local approvals before starting work. Please note that Section 401 Water Quality Certification

has been issued by IEPA for this RP. Enclosed are the IEPA Section 401 Water Quality Certification conditions. If you have any questions regarding Section 401 certification, please contact Mr. Dan Heacock at IEPA Division of Water Pollution Control, Permit Section #15, by telephone at (217) 782-3362.

For a complete copy of the RPP program or any additional information on the RPP program, please access our website: [www.lrc.usace.army.mil/co-r](http://www.lrc.usace.army.mil/co-r). Once you have completed the authorized activity, please sign and return the enclosed compliance certification. If you have any questions, please contact Mr. Soren Hall of my staff by telephone at 312-846-5532, or email at [Soren.G.Hall@usace.army.mil](mailto:Soren.G.Hall@usace.army.mil).

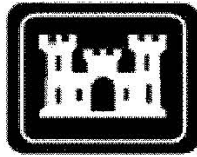
Sincerely,

  
Keith L. Wozniak  
Chief, West Section  
Regulatory Branch

Enclosures

Copy Furnished w/out Enclosures:

Steve Rauch (Hey and Associates)



**PERMIT COMPLIANCE  
CERTIFICATION**

Permit Number: LRC-2010-00438  
Permittee: Diane O'Keefe  
Illinois Department of Transportation  
Date of Issuance: January 26, 2011

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of said permit and if applicable, compensatory wetland mitigation was completed in accordance with the approved mitigation plan.<sup>1</sup>

\_\_\_\_\_  
PERMITTEE

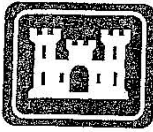
\_\_\_\_\_  
DATE

Upon completion of the activity authorized by this permit and any mitigation required by the permit, this certification must be signed and returned to the following address:

U.S. Army Corps of Engineers  
Chicago District, Regulatory Branch  
111 North Canal Street, 6th Floor  
Chicago, Illinois 60606-7206

Please note that your permitted activity is subject to compliance inspections by Corps of Engineers representatives. If you fail to comply with this permit, you may be subject to permit suspension, modification, or revocation.

<sup>1</sup> If compensatory mitigation was required as part of your authorization, you are certifying that the mitigation area has been graded and planted in accordance with the approved plan. You are acknowledging that the maintenance and monitoring period will begin after a site inspection by a Corps of Engineers representative or after thirty days of the Corps' receipt of this certification. You agree to comply with all permit terms and conditions, including additional reporting requirements, for the duration of the maintenance and monitoring period.



**U.S. Army Corps of Engineers**  
Chicago District

## General Conditions Applicable to all Regional Permits

The permittee shall comply with the terms and conditions of the Regional Permits and the following general conditions for all activities authorized under the RPP:

1. State 401 Water Quality Certification - Water quality certification under Section 401 of the Clean Water Act is required from the Illinois Environmental Protection Agency (IEPA). The District may consider water quality, among other factors, in determining whether to exercise discretionary authority and require an individual permit. Please note that Section 401 Water Quality Certification is a requirement for projects issued under Section 404 of the Clean Water Act. Projects issued under Section 10 of the Rivers and Harbors Act of 1899 do not require Section 401 Water Quality Certification (see APPENDIX B).

On January 31, 2007, the IEPA granted Section 401 certification, with conditions, for all Regional Permits, except for activities in certain waterways noted under RPs 4 and 8. The following conditions of the certification are hereby made conditions of the RPP:

1. The applicant shall not cause:
  - a) violation of applicable water quality standards of the Illinois Pollution Control Board Title 35, Subtitle C: Water Pollution Rules and Regulations;
  - b) water pollution defined and prohibited by the Illinois Environmental Protection Act; or
  - c) interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all State statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has

- been issued by the Illinois EPA. Any backfilling must be done with clean material placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent soil erosion during construction shall be taken and may include the installation of staked straw bales, sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Stormwater Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of (1) one or more acres, total land area. An NPDES Stormwater Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Illinois EPA's Division of Water Pollution Control, Permit Section.
  5. The applicant shall implement erosion control measures consistent with the Illinois Urban Manual (IEPA/USDA, NRCS; 2002 latest version).
  6. The applicant is advised that the following permits(s) must be obtained from the Illinois EPA: The applicant must obtain permits to construct sanitary sewers, water mains, and related facilities prior to construction.
  7. Backfill used in the stream-crossing trench shall be predominantly sand or larger size material, with <20% passing a #230 U.S. sieve.
  8. Any channel relocation shall be constructed under dry conditions and stabilized to prevent erosion prior to the diversion of flow. [Applicable only to projects which propose to relocate stream channels.]
  9. The proposed work shall be constructed with adequate erosion control measures (i.e., silt fences, straw bales, etc.) to prevent transport of sediment and materials to the adjoining wetlands and/or streams.
  10. Backfill used within trenches passing through surface waters of the State, except wetland areas, shall be clean course aggregate, gravel or other material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material may be used only if:
    - a) particle size analysis is conducted and demonstrates the material to be at least 80% sand or larger size material, using #230 U.S. sieve; or
    - b) excavation and backfilling are done under dry conditions.
  11. Backfill used within trenches passing through wetland areas shall consist of clean material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material shall be used to the extent practicable, with the upper six (6) to twelve (12) inches backfilled with the topsoil obtained during trench excavation.

12. Any applicant proposing activities in a mined area or previously mined area shall provide to the IEPA a written determination regarding the sediment and materials used which are considered "acid-producing material" as defined in 35 Il. Adm. Code, Subtitle D. If considered "acid-producing material," the applicant shall obtain a permit to construct pursuant to 35 Il. Adm. Code 404.101.
  13. Asphalt, bituminous material and concrete with protruding material such as reinforcing bar or mesh shall not be 1) used for backfill, 2) placed on shorelines/stream banks, or 3) placed in waters of the State.
  14. Applicants that use site dewatering techniques in order to perform work in perennial streams for construction activity approved under Regional Permits 1 (Residential, Commercial and Institutional Developments), 2 (Recreation Projects), 3 (Transportation Projects), 7 (Temporary Construction Activities), Permit 9 (Maintenance) or 12 (Bridge Scour Protection) shall maintain flow in the stream during such construction activity by utilizing dam and pumping, fluming, culverts or other such techniques.
  15. In addition to any action required of the Regional Permit 13 (Cleanup of Toxic and Hazardous Materials Projects) applicant with respect to the "Notification" General Condition 21, the applicant shall notify the Illinois EPA Bureau of Water, of the specific activity. This notification shall include information concerning the orders and approvals that have been or will be obtained from the Illinois EPA Bureau of Land (BOL) for all cleanup activities under BOL jurisdiction, or for which authorization or approval is sought from BOL for no further remediation. This Regional Permit is not valid for activities that do not require or will not receive authorization or approval from the BOL.
  16. This Regional Permit is not valid for utility line projects under Regional Permits 1 (Residential, Commercial and Institutional Developments) and 2 (Recreation Projects) in the water bodies listed under Regional Permit 8 (Utility Line Projects).
2. Threatened and Endangered Species - If the District determines that the activity may affect Federally listed species or critical habitat, the District will initiate Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) in accordance with the ESA. Applicants may provide additional information that would enable the District to conclude that the proposed action is not likely to adversely affect a federally listed species. Applicants are encouraged to obtain information on threatened or endangered species and their critical habitats from the USFWS at the earliest stages of project planning

The application packet must include a letter from the USEWS indicating whether any species listed under the Endangered Species Act of 1973 may be present in areas affected (directly or indirectly). You may request such a letter by writing to:

Attention: Field Supervisor  
Chicago Field Office  
U.S. Fish and Wildlife Service  
1250 South Grove Avenue, Suite 103  
Barrington, Illinois 60010

The consultation process will involve the following procedures: After an applicant (or their agent) submits a written request to the USFWS for information on the presence of listed species within a project area, the USFWS will send a reply to the applicant (and/or their agent) and the District. If the USFWS indicates that listed species may be present or that suitable habitat for the species may be in the area, or the project may have adverse effects on the listed species, informal discussions to resolve concerns among the applicant, the District and the USFWS may begin. The applicant can submit additional information, which may allow the USFWS to conclude that the project is unlikely to adversely affect a listed species. If all issues pertaining to endangered and threatened species have been resolved through the consultation process and to the satisfaction of the District and the USFWS, the District may, at its discretion, authorize the activity under the RPP. The time frame for informal discussions will vary, but efforts will be made by all parties to keep a planned schedule. If issues are not resolved, the analysis of the situation is complicated, or impacts to listed species are found to be greater than minimal, the District shall consider reviewing the project under the Individual Permit process.

3. Historic Properties - No activity is authorized under the RPP if the activity will affect properties listed, or properties eligible for listing, in the National Register of Historic Places, in accordance with the provisions of 33 CFR Part 325, Appendix C and Section 106 of the National Historic Preservation Act. Federal agencies should follow their own procedures for compliance with the requirements of the National Historic Preservation Act and other Federal historic preservation laws. Non-federal applicants should notify the District if the activity may affect historic properties which are listed, determined eligible for listing, or which the applicant has reason to believe may be eligible for listing, on the National Register of Historic Places in the project area. If the District determines that the activity may potentially affect a historic property, or a property eligible for listing, the activity shall not be authorized under the RPP and an individual permit will be required. The District will take into account the effects on such properties in accordance with 33 CFR Part 325, Appendix C. If all issues pertaining to historic properties have been resolved through the consultation process to the satisfaction of the District, Illinois Historic Preservation Agency (IHPA) and Advisory Council on Historic Preservation, the District may, at its discretion, authorize the activity under the RPP instead of an individual permit. Applicants are encouraged to obtain information on historic properties from the IHPA and the National Register of Historic Places at the earliest stages of project planning. For information, contact:

Illinois Historic Preservation Agency  
1 Old State Capitol Plaza  
Springfield, Illinois 62701-1507  
(217) 782-4836

4. Soil Erosion and Sediment Control - Measures shall be taken to control soil erosion and sedimentation at the project site to ensure that sediment is not transported to waters of the U.S. during construction. Soil erosion and sediment control measures shall be implemented before initiating any clearing, grading, excavating or filling activities. All temporary and permanent soil erosion and sediment control measures shall be maintained throughout the construction period and until the site is stabilized. All exposed soil and other fills, and any work below the ordinary high water mark shall be permanently stabilized at the earliest practicable date.

Applicants are required to prepare a soil erosion and sediment control (SESC) plan. The plan shall be designed in accordance with the Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control ("Green Book", latest version, except chapter 6). Practice standards and specifications for measures outlined in the soil erosion and sediment control plans will follow the latest edition of the "Illinois Urban Manual: A Technical Manual Designed for Urban Ecosystem Protection and Enhancement." Additional Soil Erosion and Sediment Control (SESC) measures not identified in the "Green Book" may also be utilized upon District approval.

At the District's discretion, an applicant may be required to submit the SESC plan to the local Soil and Water Conservation District (for activities in Cook, DuPage, Kane, McHenry and Will Counties), or the Stormwater Management Commission (for activities in Lake County) for review. When the District does require submission of an SESC plan, the following applies: An activity may not commence until the SESC plan for the project site has been reviewed; The SWCD/SMC will review the plan and provide a written evaluation of its adequacy; A SESC plan is considered acceptable when the SWCD/SMC has found it meets technical standards. Once this determination has been made, the authorized work may commence unless the SWCD/SMC has requested that they be notified prior to commencement of the approved plans. The SWCD/SMC may attend pre-construction meetings with the permittee and conduct inspections during construction to determine compliance with the plans. Applicants are encouraged to begin coordinating with the appropriate SWCD/SMC office at the earliest stages of project planning. For information, contact:

Kane/DuPage SWCD  
2315 Dean Street, Ste. 100  
St. Charles, IL 60174  
(630) 584-7961

Will/South Cook SWCD  
1201 Gougar Road  
New Lenox, IL 60451  
(815) 462-3106

McHenry County SWCD  
1648 South Eastwood Dr.  
Woodstock, IL 60098  
(815) 338-0099

North Cook SWCD  
899 Jay Street  
Streamwood, IL 60120  
(847) 468-0071

Lake County SMC  
333-B Peterson Road  
Libertyville, IL 60048  
(847) 918-5260

5. Floodplain - Discharges of dredged or fill material into waters of the United States within the 100-year floodplain (as defined by the Federal Emergency Management Agency) resulting in permanent above-grade fills shall be avoided and minimized to the maximum extent practicable. When such an above-grade fill would occur, the applicant may need to obtain approval from the Illinois Department of Natural Resources, Office of Water Resources, (IDNR-OWR) which regulates activities affecting the floodway and local government (e.g., Village or County) with jurisdiction over activities in the floodplain. Compensatory storage may be required for fill within the floodplain. Applicants are encouraged to obtain information from the IDNR-OWR and local government with jurisdiction at the earliest stages of project planning. For information on floodway construction, contact:

IDNR/OWR  
36 S. Wabash, Suite 1415  
Chicago, Illinois 60603  
(312) 793-3123



For information on floodplain construction, please contact the local government and/or the Federal Emergency Management Agency. Pursuant to 33 CFR 320.4 (j), the District will consider the likelihood of the applicant obtaining approval for above-ground permanent fills in floodplains in determining whether to issue authorization under the RPP.

6. Navigation - No activity may cause more than minimal adverse effects on navigation.
7. Proper Maintenance - Any authorized structure or fill shall be properly maintained, including that necessary to ensure public safety.
8. Aquatic Life Movements - No activity may substantially disrupt the movement of those species of aquatic life indigenous to the waterbody, including species that normally migrate through the area, unless the activity's primary purpose is to impound water.
9. Equipment - Heavy equipment working in wetlands shall be placed on mats or, other measures such as low-ground pressure equipment shall be taken to minimize soil disturbance.
10. Wild and Scenic Rivers - No activity may occur in a component of the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status. Information on Wild and Scenic Rivers may be obtained from the appropriate land management agency in the area, such as the National Park Service and the U.S. Forest Service.
11. Tribal Rights - No activity or its operation may impair reserved tribal rights, such as reserved water rights, treaty fishing and hunting rights.
12. Water supply intakes - No discharge of dredged or fill material may occur in the proximity of a public water supply intake except where the discharge is for repair of the public water supply intake structures or adjacent bank stabilization.
13. Shellfish production - No discharge of dredged or fill material may occur in areas of concentrated shellfish production.
14. Suitable material - No discharge of dredged or fill material may consist of unsuitable material and material discharged shall be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act). Unsuitable material includes trash, debris, car bodies, and asphalt.
15. Spawning areas - Discharges in spawning areas during spawning seasons shall be avoided to the maximum extent practicable.
16. Obstruction of high flows - Discharges shall not permanently restrict or impede the passage of normal or expected high flows. All crossings shall be culverted, bridged or otherwise designed to prevent the restriction of expected high water flows, and shall be designed so as not to impede low water flows or the movement of aquatic organisms.
17. Impacts from impoundments - If the discharge creates an impoundment of water adverse impacts on aquatic resources caused by the accelerated passage of water and/or the restriction of its flow shall be avoided to the maximum extent practicable.

18. Waterfowl breeding areas - Discharges into breeding areas for migratory waterfowl shall be avoided to the maximum extent practicable.
19. Removal of temporary fills - Any temporary fill material shall be removed in its entirety and the affected area returned to its pre-existing condition.
20. Mitigation - Impacts to waters of the U.S. shall be avoided and minimized to the maximum extent practicable at the project site. Avoidance and minimization shall be attempted before compensatory wetland mitigation is considered. Compensatory mitigation will be accomplished by establishing a minimum ratio of 1.5 acres of mitigation for every 1.0 acre of waters of the U.S. impacted by the project. Furthermore, the District has the discretion to require additional mitigation to ensure that the impacts are no more than minimal. Mitigation shall be consistent with the Memorandum of Agreement (MOA) between the Department of the Army and the Environmental Protection Agency Concerning the Determination of Mitigation under the Clean Water Act Section 404(b) (1) Guidelines. Mitigation may consist of the following, listed in order of preference: restoration of historic wetlands that are currently non-wetlands because of drainage or other alterations; enhancement of existing aquatic resources through various actions such as modification of hydrology, introduction of appropriate native species, invasive species removal, and other management measures; creation of aquatic resources in historically upland areas; and, preservation of existing aquatic resources through real estate acquisition strategies. Careful consideration shall be given to the likelihood of sustainability, practicability, availability, and reliability of compensatory mitigation. Off-site wetland mitigation may be considered where the long-term success of on-site mitigation is uncertain.
21. Notification - The applicant shall provide written notification (i.e., a complete application) for a proposed activity to be authorized under the RPP prior to commencing a proposed activity. The District's receipt of the complete application is the date when the District receives all required notification information from the applicant (see below). If the District does not provide a written response to the applicant within 45 calendar days following receipt of a complete application, the applicant may presume the proposed activity qualifies for the requested Regional Permit(s), provided the activity complies with the terms and conditions of the RPP. If the District informs the applicant within 45 calendar days that the notification is incomplete (i.e., not a complete application), the applicant shall submit to the District in writing, the requested information to be considered for review under the Regional Permit Program. A new 45-day review period will commence when the District receives the requested information. Applications that involve unauthorized activities that are completed or partially completed by the applicant are not subject to the 45-day review period.

For all activities, notification will include:

- a. A cover letter providing a detailed description of the proposed activity, a clear project purpose and need statement, the Regional Permit(s) to be used for the activity, the area (in acres) of waters of the U.S. to be impacted, and a statement that the terms and conditions of the RPP will be followed;

- b. A completed joint application form (NCR Form 426, Protecting Illinois Waters) signed by the applicant or agent. If the agent signs, notification shall include a signed, written statement from the applicant designating the agent as their representative;
- c. A delineation of waters of the U.S., including wetlands, for the project area, and for areas adjacent to the project site (off-site wetlands shall be identified through the use of reference materials including review of local wetland inventories, soil surveys and the most recent available photography), shall be prepared in accordance with the current Corps of Engineers methodology and generally conducted during the growing season.\* For sites supporting wetlands, the delineation shall include a Floristic Quality Assessment (Swink and Wilhelm, 1994, latest edition, Plants of the Chicago Region). The delineation shall also include information on the occurrence of any high-quality aquatic resources, and a listing of waterfowl and amphibian species observed while at the project area. The District will exercise their judgment when it comes to the submittal of wetland delineation. Flexibility of the requirements may be determined by the District on a case-by-case basis only.
- d. A map showing the location of the project area;
- e. Full-size preliminary engineering drawings (8 1/2" x 11" reduced-sized for Category II projects only) showing all aspects of the proposed activity and the location of waters of the U.S. to be impacted and not impacted. The plans shall include grading contours and proposed and existing structures such as buildings footprints, roadways, road crossings, stormwater management facilities, utilities, construction access areas and details of water conveyance structures. The drawings shall also depict buffer areas, outlots or open space designations, best management practices, deed restricted areas, and restoration areas, if required under the specific RP;
- f. Submittal of soil erosion and sediment control (SESC) plans that identify all SESC measures to be instituted during construction of the project;
- g. The application must include a letter from the U.S. Fish and Wildlife Service (Service) indicating whether any species listed under the Endangered Species Act of 1973, as amended (Act), may be present within areas affected (directly or indirectly) by the proposed project. This letter should be dated within one year of the submission date of the application packet to the District. The District will use this and other available information to determine whether the proposed project may adversely affect a federally listed species. If the District believes that a listed species may be adversely affected we will begin discussions with the Service, and will include the applicant or their consultant in these discussions. If appropriate, the District will request formal

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\* If a wetland delineation is conducted outside the growing season, the District will determine on a case-by-case basis whether sufficient evidence is available to make an accurate determination. If the District finds that delineation lacks sufficient evidence, the application will not be considered complete until such time the information is provided. This may involve re-delineating the project site during the growing season.

consultation from the Service pursuant to section 7 of the Act on the proposed project. The District will not issue a permit to an applicant until the consultation process is completed;

- h. A signed statute of limitations tolling agreement (if application is after-the-fact);
- i. A discussion of measures taken to avoid and/or minimize impacts to aquatic resources on the project site;
- j. A compensatory mitigation plan for all impacts to waters of the U.S., (if compensatory mitigation is required under the specific RP); and
- k. Other items listed under the specific RP.

For Category II activities, the District will, upon receipt of a complete application, provide by facsimile transmission, email or other expeditious means), a pre-construction notice (PCN) which describes the proposed activity to the United States Fish & Wildlife Service (USFWS), United States Environmental Protection Agency (USEPA), Illinois Department of Natural Resources (IDNR), Illinois Department of Natural Resources/Office of Water Resources (IDNR/OWR) Illinois Environmental Protection Agency (IEPA), Illinois Historic Preservation Agency (IHPA), Illinois Nature Preserves Commission (INPC) and U.S. Coast Guard (Section 10 activities only). These agencies will then have ten (10) calendar days from the date the PCN is transmitted to contact the District if they intend to provide substantive, site-specific comments. If so contacted by an agency, the District will grant an extension, not to exceed fifteen (15) calendar days for agency written comments before making a decision on the notification. The District will fully consider agency comments received within the specified time frame. If the District determines the activity complies with the terms and conditions of the RPP and impacts on aquatic resources are minimal, the District will notify the applicant in writing and include any special conditions deemed necessary. If the District determines that the impacts of the proposed activity are more than minimal, the District will notify the applicant that the project does not qualify for authorization under the RPP and instruct the applicant on the procedures to seek authorization under an individual permit.

22. Compliance Certification - Every permittee who has received authorization under the RPP from the District will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the District with the authorization letter and will include: a) A statement that the authorized work was done in accordance with the District's authorization, including any general or specific conditions; b) A statement that any required mitigation was completed in accordance with the permit conditions and; c) The signature of the permittee certifying the completion of the work and mitigation.

23. Multiple use of Regional Permits - In any case where a Regional Permit is combined with any other Regional Permit to cover a single and complete project (except where prohibited under specific Regional Permits), the applicant shall notify the District in accordance with General Condition 21. If multiple Regional Permits are used, the total impact may not exceed the maximum allowed by the Regional Permit with the greatest impact threshold.

24. Other Restrictions - Authorization under the RPP does not obviate the need to obtain other Federal, State or local permits, approvals, or authorizations required by law nor does it grant any property rights or exclusive privileges, authorize any injury to the property or rights of others or authorize interference with any existing or proposed Federal project.

STATEWIDE PERMIT NO. 2



# Illinois Department of Transportation

## Memorandum

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To: Anthony Quigley                      Attn: Catherine Kibble  
From: Peter Harmet  
Subject: Statewide Permit #2\*  
Date: January 28, 2011

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\*Route: Illinois 173  
Section: 132B-2  
County: McHenry  
Stream: Nippersink Creek  
Structure: 056-0029 (E)  
              056-0091 (P)

Attached for your information and use is a copy of the Statewide Permit HYS2-01-2011 approved by Diane O'Keefe on January 21, 2011

If you have any questions or need additional information, please contact Esther Winograd, at (847) 705-4475.

Very truly yours,

Diane M. O'Keefe, P.E.  
Deputy Director of Highways,  
Region One Engineer

By:   
Richard F. Wojcik, P.E.  
Hydraulics Section Chief

cc: Gary Jereb, IDNR/OWR (Copy of Permit)  
Gene Joynt, Bureau of Construction (Copy of permit)



# Illinois Department of Transportation

Division of Highways/Region One / District One  
201 West Center Court/Schaumburg, Illinois 60196-1096

IDNR/OWR STATEWIDE PERMIT NO.2

PERMIT NO.: HYS2-01-2011

January 14, 2011

|                 |                             |
|-----------------|-----------------------------|
| Route:          | FAP 303 – IL 173            |
| Section:        | 132 B-2                     |
| County:         | McHenry                     |
| Stream:         | Nippersink Creek            |
| Structure Type: | 1 Span Open Abutment        |
| Bridge Length:  | Main: 82.5 feet (+) (F-F)   |
| Job No.:        | P-91-206-08                 |
| Structure No.:  | 059-0029 (E)<br>059-0091(P) |

Region One has no objection to the proposed construction designated above provided the proposed improvement is based on the attached approved plans dated December 14, 2010. The following checklist must comply:

The stream crossing is located in a rural area draining more than ten square miles.

There will be no straightening, enlargement or relocation of the channel.

The proposed structure is a replacement with no increase in headwater over existing conditions.

The following Certification Statements are on file:

P.E. Certification of existing structure: No flood damages or complaints.

Illinois P.E. Certification: Structure designed by standard hydrologic and hydraulic engineering methods,

APPROVED:

A handwritten signature in black ink, appearing to read 'D O'Keefe'.

Diane M. O'Keefe, P.E.  
Deputy Director of Highways,  
Region One Engineer

S:\Mgr1\GenWP\HYD\dapmStatewide#2DOKsig.docx

## STORM WATER POLLUTION PREVENTION PLAN




### STORM WATER POLLUTION PREVENTION PLAN

|         |                |              |                    |
|---------|----------------|--------------|--------------------|
| Route   | <u>FAP 303</u> | Marked       | <u>IL 173</u>      |
| Section | <u>132B-2</u>  | Project No.  | <u>C-91-012-10</u> |
| County  | <u>McHenry</u> | Contract No. | <u>60I29</u>       |

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Diane O'Keefe  
Print Name  
Deputy Director, Region 1 Engineer  
Title  
Illinois Department of Transportation  
Agency

  
Signature  
2-17-11  
Date

#### I. Site Description:

##### A. Provide a description of the project location (include latitude and longitude):

The project is located in McHenry County, IL west of the town of Hebron. The intersection of IL-173 over Nippersink Creek is located at latitude 42° 27' 45" N, longitude 88° 28' 02" W. The project begins on IL-173 starting 1000 feet west of the existing bridge to a point 850 feet east of the existing bridge. Nippersink Creek flows south for several miles before emptying into Wonder Lake, a recreational, fishing, and boating body of water.

##### B. Provide a description of the construction activity which is the subject of this plan:

Replacement of the existing bridge over Nippersink Creek with a new structure that will be over 3' higher. Replacement of IL-173 on either side of the new bridge to the project limits, with fill embankment being installed to raise the road to meet the higher bridge structure.

##### C. Provide the estimated duration of this project:

Project is expected to last 6.5 months from start date.

##### D. The total area of the construction site is estimated to be 3.84 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 3.84 acres.



- E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

C value =0.82 (post const)  
C value=0.80 (pre const.)

- F. List all soils found within project boundaries. Include map unit name, slope information, and erosivity:

297B - Ringwood silt loam, 2-4% slopes, no erosion  
310B - McHenry silt loam, 2-4% slopes, no erosion  
344A - Harvard silt loam, 0-2% slopes, no erosion  
  
361C2 - Kidder loam, 4-6% slopes, eroded  
361D2 - Kidder loam, 6-12% slopes, eroded  
361D3 - Kidder clay loam, 6-12% slopes, severely eroded  
361E2 - Kidder loam, 12-20% slopes, eroded  
1776A - Comfrey loam, 0-2% slopes, undrained, occasionally flooded.

- G. Provide an aerial extent of wetland acreage at the site:

Included on plan set.

- H. Provide a description of potentially erosive areas associated with this project:

Due to the slope of the roadway from either end of the construction limits towards Nippersink Creek, the drainage ditches for the road have slopes between 4-5% for long stretches. These slopes give collected stormwater the potential to reach high velocities and cause significant erosion of soils. Side slopes behind guardrails can be as steep as 2:1 during and after construction of this project, and these slopes will need to be protected as well. The roadbed will be raised to meet the higher elevation of the new bridge, therefore clearing and grubbing activity will have to take place along the roadway to prepare the soil for proper fill placement,

- I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of slopes, etc):

Stage 1 - Installation of perimeter erosion barrier and Clearing and grubbing of existing roadside slope (3:1) on the south side to install temporary widening on roadway with some additional slope widening installed. Milling or removal of pavement and bridge on the north side, clearing and grubbing of slope on north side with reconstruction of new drainage ditch running parallel to the road after additional slope fill installation for higher road. Installation of erosion blanket, seeding, and temporary ditch checks. Final foreslope grade to be between 2:1 and 6:1.

Stage 2 - Additional clearing and grubbing of existing foreslope and ditch area on the south side, milling or removal of pavement and bridge on the south side, reconstruction of new drainage ditch running parallel to the road after additional slope fill installation for higher road. Final foreslope grade to be between 2:1 and 6:1 Installation of rip rap around and between bridge abutments including stream bottom. Installation of temporary ditch checks, erosion blanket, turf reinforcement mats, and seeding.

Note - All existing and proposed foreslopes have a length less than 30 feet.

- J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

- K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Drainage from this project is from IDOT right-of-way and all flows enter Nippersink Creek.

- L. The following is a list of receiving water(s) and the ultimate receiving water(s), for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

Nippersink Creek flows into Wonder Lake. Existing wetlands near this project are located on the upstream side of the bridge (north side).

- M. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

Two low lying areas denoted as wetlands on the plans are to remain undisturbed. All flows entering Nippersink Creek need to be fully filtered to minimize siltation into the waterway. This waterway is home to the Slippershell mussel, a threatened species in the state of Illinois. Care shall also be taken when disturbing the creek bed and side slopes as the mussels live in

- N. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- Floodplain
- Wetland Riparian
- Threatened and Endangered Species
- Historic Preservation
- 303(d) Listed receiving waters for suspended solids, turbidity and siltation
- Receiving Waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation
- Applicable Federal, Tribal, State or Local Programs
- Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

Nippersink Creek

- a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

Nippersink Creek segment IL-DTK-06, mercury, polychlorinated biphenyls, fecal coliform, aldrin, nickel per the 2010 DRAFT 303 (d) list.

- b. A description of how Erosion and Sediment Control Practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a 25-year, 24-hour rainfall event.:

Not applicable

- c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

Four drainage ditches will carry stormwater from the right-of-way to Nippersink Creek. The ditches end at the north and south side of the east end of the bridge and the north and south side of the west end of the bridge.

- d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

The locations of any dewatering discharges shall be determined by the contractor and submitted for approval as part of their in-stream plan. See Section II.A.2- Structural Practices

2. TMDL (fill out this section if checked above)

a. The name(s) of the listed water body:

N/A

b. Provide a description of the Erosion and Sediment Control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

N/A

c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

N/A

O. The following pollutants of concern will be associated with this construction project:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Soil Sediment             | <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input checked="" type="checkbox"/> Concrete                  | <input checked="" type="checkbox"/> Antifreeze / Coolants  |
| <input checked="" type="checkbox"/> Concrete Truck Waste      | <input type="checkbox"/> Waste water from cleaning construction equipment                          |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Solid Waste Debris        | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Paints                    | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Solvents                  | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides  | <input type="checkbox"/> Other (specify)   |

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the contractor will be responsible for its implementation as indicated. The contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. Erosion and Sediment Controls

1. **Stabilized Practices:** Provided below is a description of interim and permanent stabilization practices, including site specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(A)(1)(a) and II(A)(3), stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

Where the initiation of stabilization measures by the seventh day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

The following Stabilization Practices will be used for this project:

- |   |   |
|---|---|
| <input type="checkbox"/> Preservation of Mature Vegetation            | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching          |
| <input type="checkbox"/> Vegetated Buffer Strips                      | <input type="checkbox"/> Sodding  |
| <input type="checkbox"/> Protection of Trees                          | <input type="checkbox"/> Geotextiles  |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input checked="" type="checkbox"/> Other (specify) Powdered Polymer Flocculant |
| <input checked="" type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input checked="" type="checkbox"/> Other (specify) Turf reinforcement mats     |
| <input checked="" type="checkbox"/> Temporary Mulching                | <input checked="" type="checkbox"/> Other (specify) Temporary earth cover       |
| <input checked="" type="checkbox"/> Permanent Seeding                 | <input type="checkbox"/> Other (specify)  |

Describe how the Stabilization Practices listed above will be utilized during construction:

This project will use a combination of powdered polymer flocculant, ditch checks, perimeter erosion control barrier super silt fence, temporary seeding, and erosion control blankets to filter all flows to Nippersink Creek and minimize TSS and silt from reaching the stream during the project. Turf reinforcement mats, rip rap, and permanent seeding, will be used to achieve the same goals on a permanent basis.

All temporary ditches checks will be temporarily seeded and lined with erosion control blankets, and permanent ditches will be permanently seeded and lined with turf reinforcement mats installed in accordance with the manufacturer's specifications as soon as possible. Temporary ditch checks shall be installed as shown on the plans. This will minimize erosion of the ditches and reduce stormwater velocities to allow for particles to settle and filter out. Ditch checks will be inspected and maintained after each rain event. Powdered Polymer Flocculant will also be installed in all ditch areas prior to placement of erosion control blanket to provide sediment control measures. Anyone handling the granular powdered polymer flocculant should use soap and water to wash hands afterwards. Plastic or rubber gloves are recommended during placement after usage. Clean up spills quickly but do not use water unless necessary as extremely slippery conditions will result. Any damaged systems will be replaced immediately. Any disturbed areas will be covered with a combination of temporary seeding, temporary mulch, and erosion control blankets. After any area has received final grading, powdered (no cationic) flocculant will be broadcast onto the exposed soil, the area will then be permanently seeded and covered with mulching to establish plant covering. If the project becomes delayed due to winter conditions then all exposed areas will receive temporary earth cover with mulching as noted in the IDOT standard specifications. Contractor will continue to maintain and inspect facilities throughout the winter. Any areas that receive temporary or permanent seeding will be inspected on a weekly basis and reseeded if needed. All maintenance of erosion control items will be carried out as specified in the current IDOT "Standard Specifications for Road and Bridge Construction", current edition.

Describe how the Stabilization Practices listed above will be utilized after construction activities have been completed:

As the project is completed all ditch areas will be stabilized with turf reinforcement mats installed in accordance with the manufacturers specifications. All disturbed areas will be covered with permanent seeding and mulch and maintained as described in the IDOT standard specifications, current edition, as soon as possible after completion of final grading.

2. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains,

level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following Structural Practices will be used for this project:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier     | <input checked="" type="checkbox"/> Rock Outlet Protection              |
| <input checked="" type="checkbox"/> Temporary Ditch Check         | <input checked="" type="checkbox"/> Riprap                              |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection  | <input type="checkbox"/> Gabions  |
| <input type="checkbox"/> Sediment Trap                            | <input type="checkbox"/> Slope Mattress                                 |
| <input type="checkbox"/> Temporary Pipe Slope Drain               | <input type="checkbox"/> Retaining Walls                                |
| <input type="checkbox"/> Temporary Sediment Basin                 | <input type="checkbox"/> Slope Walls                                    |
| <input type="checkbox"/> Temporary Stream Crossing                | <input type="checkbox"/> Concrete Revetment Mats                        |
| <input checked="" type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders                                |
| <input checked="" type="checkbox"/> Turf Reinforcement Mats       | <input checked="" type="checkbox"/> Other (specify) Powdered Flocculant |
| <input type="checkbox"/> Permanent Check Dams                     | <input checked="" type="checkbox"/> Other (specify) In stream work plan |
| <input type="checkbox"/> Permanent Sediment Basin                 | <input type="checkbox"/> Other (specify)                                |
| <input type="checkbox"/> Aggregate Ditch                          | <input type="checkbox"/> Other (specify)                                |
| <input type="checkbox"/> Paved Ditch                              | <input type="checkbox"/> Other (specify)                                |

Describe how the Structural Practices listed above will be utilized during construction:

Perimeter erosion barrier super silt fence will be erected around the perimeter of the project to stop materials from leaving the site. Contractor will install and maintain all best management practices shown on the plans. Additional perimeter erosion barrier super silt fence will be erected as needed for areas not shown on the plans that become disturbed through construction activity. Perimeter erosion barrier super silt fence will be inspected after each rain event and maintained as needed to ensure functionality. Temporary foam/geotextile ditch checks will be installed as noted on the plans in a manner consistent with the manufacturer specifications. Ditch checks will be placed as shown in the plan sheets. All ditch checks will be inspected after each rain event and maintained to ensure full functionality. Replace ditch checks as needed. All storm drain inlets will be protected to stop silt and debris from entering the system. Inlet filter baskets as specified in the current edition of the IDOT "Standard Specifications for Road and Bridge Construction" will be installed at all inlets for the duration of the project. Turf reinforcement mats will be installed in all permanent ditches on this project as outlined in the manufacturer specifications. Stone rip rap with filter fabric will be installed around both bridge abutments as shown on the plans to protect those areas from high water events and dissipate energy and collect sediment at the end of drainage ditches. Granular powdered flocculant will be used as outlined earlier in this SWPPP. Stabilized construction exits shall not be measured separately for payment but shall be included in the cost.

The Contractor shall secure approval of a Contractor-prepared-in-stream work plan prior to any work affecting jurisdictional Waters. The Contractor is referred to the ACOE Chicago District website ([www.lrc.usace.army.mil/co-r/SESCrec.pdf](http://www.lrc.usace.army.mil/co-r/SESCrec.pdf)) for stream and stream side notes to use in the preparation of the in-stream work plan. The Contractor's in-stream work plan shall meet IDOT and regulatory agency approval. The in-stream plan must meet the approval of hydraulic and structural review of the Department and required compliance with all regulatory permits. Structural / hydraulic approval does not constitute regulatory approval. The Contractor in-stream work plan is part of erosion and sediment control and is subject to the NPDES/ESC deficiency deduction. The cost of preparing and implementing in-stream work plans, except where otherwise required in the SWPPP for in stream work, BMP's needed to implement the Contractor's in-stream work plan will not be measured or paid for separately. The Contractor before entering upon jurisdictional Waters for the performance of any construction work or work preparatory thereto, shall secure permission from the Army Corps of Engineers (ACOE) for the occupancy and use of the jurisdictional waters.

Describe how the Structural Practices listed above will be utilized after construction activities have been completed:

Turf reinforcement mats will be installed in all permanent ditches as noted earlier in this SWPPP. Stone rip rap will remain permanently after the project is completed to continue stabilizing and protecting bridge abutment areas and dissipating energy and collecting sediment at the end of drainage ditches.

3. **Storm Water Management:** Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- a. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design and Environment Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

- b. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of Storm Water Management Controls:

Turf reinforcement mats, permanent seeding, and mulching will be installed to promote native plant growth that will stabilize the soil and minimize soil loss due to stormwater erosion.

4. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

N/A

5. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with this permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342a.

- a. Contractor is to provide a Construction Schedule containing an adequate level of detail to show major activities with implementation of Pollution Prevention BMPs, including the following items:
  - Approximate duration of the project, including each stage of the project
  - Rainy season, dry season, and winter shutdown dates
  - Temporary stabilization measures to be employed by contract phases
  - Mobilization timeframe
  - Mass clearing and grubbing/roadside clearing dates
  - Deployment of Erosion Control Practices
  - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
  - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
  - Paving, saw-cutting, and any other pavement related operations
  - Major planned stockpiling operations
  - Timeframe for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
  - Permanent stabilization activities for each area of the project
- b. Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
  - Vehicle Entrances and Exits – Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
  - Material Delivery, Storage and Use – Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
  - Stockpile Management – Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
  - Waste Disposal – Discuss methods of waste disposal that will be used for this project.
  - Spill Prevention and Control – Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
  - Concrete Residuals and Washout Wastes – Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
  - Litter Management – Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
  - Vehicle and Equipment Fueling – Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Vehicle and Equipment Cleaning and Maintenance – Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Additional measures indicated in the plan.

### III. Maintenance:

When requested by the Contractor, the Resident Engineer will provide maintenance guides to the contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractors responsibility to attain maintenance guidelines for any manufactured BMP's which are to be installed and maintained per manufacture's specification.

**IV. Inspections:**

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report (BC 2259). Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inch or greater or equivalent snowfall.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: [epa.swnoncomp@illinois.gov](mailto:epa.swnoncomp@illinois.gov), telephone or fax within 24 hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Noncompliance" (ION) report for the identified violation within 5 days of the incident. The Resident Engineer shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attn: Compliance Assurance Section  
1021 North Grand East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

**V. Failure to Comply:**

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the contractor and/or penalties under the Permit ILR10 which could be passed on to the contractor.





### Contractor Certification Statement

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.5 of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

|         |                |              |                    |
|---------|----------------|--------------|--------------------|
| Route   | <u>FAP 303</u> | Marked Rte.  | <u>IL 173</u>      |
| Section | <u>132B-2</u>  | Project No.  | <u>C-91-012-10</u> |
| County  | <u>McHenry</u> | Contract No. | <u>60I29</u>       |

This certification statement is a part of the SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in the SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

|                |                |
|----------------|----------------|
| _____          | _____          |
| Print Name     | Signature      |
| _____          | _____          |
| Title          | Date           |
| _____          | _____          |
| Name of Firm   | Telephone      |
| _____          | _____          |
| Street Address | City/State/ZIP |

Items which this Contractor/subcontractor will be responsible for as required in Section II.5. of the SWPPP:

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\_\_\_\_\_

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**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

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**ATTACHMENTS**

**A. Employment Preference for Appalachian Contracts  
(included in Appalachian contracts only)**

**I. GENERAL**

1. 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.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

- Section I, paragraph 2;
- Section IV, paragraphs 1, 2, 3, 4 and 7;
- Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 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 DOL, or the contractor's employees or their representatives.

6. Selection of Labor: During the performance of this contract, the contractor shall not:

- a. Discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

- b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

**II. NONDISCRIMINATION**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

**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 and 41 CFR 60 (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 Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American 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 State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their

review of his/her activities under the contract.

- b. The contractor will accept as his 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, preapprenticeship, and/or on-the-job-training."

**2. EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for an must be capable of effectively administering and promoting an active contractor program of EEO 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 minority group employees.
- 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 minority groups 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 employees referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish which such identified sources procedures whereby minority group 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, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group 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 his 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 his avenues of appeal.

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

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

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. Where feasible, 25 percent of apprentices or trainees in each occupation shall be

in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

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 minority group and women employees 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 his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. 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 best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best 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 SHA 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 minority and women 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 minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) 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 SHA.

**8. 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.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees.

Contractors shall obtain lists of DBE construction firms from SHA

personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

**9. 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 completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

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

(1) The number 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;

(3) The progress and efforts being made in locating, hiring, training,

qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of

DBE subcontractors or subcontractors with meaningful minority and

female representation among their employees.

b. The contractors will submit an annual report to the SHA 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. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

### III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

### IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located

on roadways classified as local roads or rural minor collectors, which are exempt.)

#### 1. General:

a. All mechanics and laborers 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 (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) 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. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, 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 paragraphs 4 and 5 of this Section IV.

b. 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.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

#### 2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification 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 DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour 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.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional 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 question, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advised the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

### 3. Payment of Fringe Benefits:

a. 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 or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost 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.

### 4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

#### a. Apprentices:

(1) 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 DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/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 Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees 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

employee 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 listed in 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 or subcontractor 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-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) 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 journeyman-level 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 for the Wage

and Hour Division determines that a different practice prevails for

the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

#### b. Trainees:

(1) 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 DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. 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.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level 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-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which cases such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration

withdraws approval of a training program, the contractor or subcontractor 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. Helpers:**

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV. 2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

**5. 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.

**6. Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor 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, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainee's 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 SHA contracting officer 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.

**7. Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**8. Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her 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, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or

permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

**9. Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall; upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies 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 8 above.

**V. STATEMENTS AND PAYROLLS**

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

**1. Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

**2. Payrolls and Payroll Records:**

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof 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. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found 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 and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely

all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for submitting payroll copies of all subcontractors.

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

- (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
- (2) that such 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 the Regulations, 29 CFR 3;
- (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. 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 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S. C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, 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 SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions 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.

## VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all federal-aid contracts on the national highway system, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

- a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
- b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
- c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data

required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

## VII. SUBLETTING OR ASSIGNING THE CONTRACT

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 State. 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 contractors' own organization (23 CFR 635).

- a. "Its own organization" shall be construed to include only workers employed and paid directly 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, assignee, or agent of the prime contractor.
- 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 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 VII 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 SHA 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 SHA 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 SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

## VIII. SAFETY: ACCIDENT PREVENTION

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 SHA 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. 333).

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. 333).

#### **IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

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, the following notice 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:

##### **NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS**

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 not more than \$10,000 or imprisoned not more than 5 years or both.”*

#### **X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more).

By submission of this bid or the execution of this contract, or

subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 *et seq.*, as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et seq.*, as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

#### **XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary 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 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 primary 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 department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary 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," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal



is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary 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 primary 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 Transaction," provided by the department or agency entering into this covered transaction, without modification in all lower tier covered transactions

and in all solicitations for lower tier covered transactions.

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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. 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.

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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#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Primary Covered Transactions**

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a 3-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;
- c. 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 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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#### **2. Instructions for Certification - Lower Tier Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

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," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

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.

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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

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 dealing.

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.

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2. Where the prospective primary participant is unable to certify

**Certification Regarding Debarment, Suspension, Ineligibility And  
Voluntary Exclusion-Lower Tier Covered Transactions:**

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 participation in this transaction 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.

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**XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR  
LOBBYING**

(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 his or her bid or proposal that he or she 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.

**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.

**NOTICE**

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.