

**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 downloading and/or ordering CD-ROM's and are 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 124INT) and the ORIGINAL, signed and notarized, "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.

**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.

**WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?** When a prospective prime bidder submits a "Request for Authorization to Bid/or Not For Bid Status" (BDE 124INT) 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 **Proposal Denial and/or Authorization Form**, approved by the Central Bureau of Construction, that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Proposal Denial and/or Authorization Form** 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 bidder check IDOT's website <http://www.dot.il.gov/desenv/delett.html> before submitting final bid information.

**IDOT is not responsible for any e-mail related failures.**

Addenda Questions may be directed to the 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 [garmantr@dot.il.gov](mailto:garmantr@dot.il.gov).

**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
Electronic plans and proposals	(217)524-1642

**ADDENDUMS AND REVISIONS TO THE PROPOSAL FORMS**

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

# 2X

RETURN WITH BID

Proposal Submitted By
Name
Address
City

## Letting

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.

(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. 62302  
COOK County  
Section (1818,ETC,2324.6-1P)R-9  
Route FAI 94/90 (SB)  
Project ACIM-943(398)55  
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

F

Checked by

(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 required for Prime Contractors to submit a bid after written **Authorization to Bid** has been issued by IDOT's Central Bureau of Construction.

**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 INT) and submit an original Affidavit of Availability (BC 57).

**WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?:** When a prospective prime bidder submits a "Request for Proposal Forms and Plans" 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 **Proposal Denial and/or Authorization Form**, approved by the Central Bureau of Construction, that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Proposal Denial and/or Authorization Form** will indicate the reason for denial. If a contractor has requested to bid but has not received a **Proposal Denial and/or Authorization Form**, 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
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Preparation and submittal of bids	217/782-7806
Mailing of CD-ROMS	217/782-7806

# RETURN WITH BID



## PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

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

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

**Contract No. 62302  
COOK County  
Section (1818,ETC,2324.6-1P)R-9  
Project ACIM-943(398)55  
Route FAI 94/90 (SB)  
District 1 Construction Funds**

**5.25 miles of reconstruction of FAI Route 94/90 (Dan Ryan Expressway) southbound from 31st Street to 71st Street, including repairs to 2 existing structures, overhead sign structures, storm sewers and pavement markings located in Chicago.**

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**

3. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned further declares that he/she has carefully examined the proposal, plans, specifications, form of contract and contract bond, and special provisions, and that he/she has inspected in detail the site of the proposed work, and that he/she has familiarized themselves with all of the local conditions affecting the contract and the detailed requirements of construction, and understands that in making this proposal he/she waives all right to plead any misunderstanding regarding the same.
  
4. **EXECUTION OF CONTRACT AND CONTRACT BOND.** The undersigned further agrees to execute a contract for this work and present the same to the department within fifteen (15) days after the contract has been mailed to him/her. The undersigned further agrees that he/she and his/her surety will execute and present within fifteen (15) days after the contract has been mailed to him/her contract bond satisfactory to and in the form prescribed by the Department of Transportation, in the penal sum of the full amount of the contract, guaranteeing the faithful performance of the work in accordance with the terms of the contract.
  
5. **PROPOSAL GUARANTY.** Accompanying this proposal is either a bid bond on the department form, executed by a corporate surety company satisfactory to the department, or a proposal guaranty check consisting of a bank cashier's check or a properly certified check for not less than 5 per cent of the amount bid or for the amount specified in the following schedule:

<u>Amount of Bid</u>		<u>Proposal Guaranty</u>		<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	
Up to	\$5,000 .....	\$150		\$2,000,000	to	\$3,000,000 .....	\$100,000
\$5,000	to \$10,000 .....	\$300		\$3,000,000	to	\$5,000,000 .....	\$150,000
\$10,000	to \$50,000 .....	\$1,000		\$5,000,000	to	\$7,500,000 .....	\$250,000
\$50,000	to \$100,000 .....	\$3,000		\$7,500,000	to	\$10,000,000 .....	\$400,000
\$100,000	to \$150,000 .....	\$5,000		\$10,000,000	to	\$15,000,000 .....	\$500,000
\$150,000	to \$250,000 .....	\$7,500		\$15,000,000	to	\$20,000,000 .....	\$600,000
\$250,000	to \$500,000 .....	\$12,500		\$20,000,000	to	\$25,000,000 .....	\$700,000
\$500,000	to \$1,000,000 .....	\$25,000		\$25,000,000	to	\$30,000,000 .....	\$800,000
\$1,000,000	to \$1,500,000 .....	\$50,000		\$30,000,000	to	\$35,000,000 .....	\$900,000
\$1,500,000	to \$2,000,000 .....	\$75,000		over		\$35,000,000 .....	\$1,000,000

Bank cashier's checks or properly certified checks accompanying proposals shall be made payable to the Treasurer, State of Illinois, when the state is awarding authority; the county treasurer, when a county is the awarding authority; or the city, village, or town treasurer, when a city, village, or town is the awarding authority.

If a combination bid is submitted, the proposal guaranties which accompany the individual proposals making up the combination will be considered as also covering the combination bid.

The amount of the proposal guaranty check is \_\_\_\_\_ \$( \_\_\_\_\_ ). If this proposal is accepted and the undersigned shall fail to execute a contract bond as required herein, it is hereby agreed that the amount of the proposal guaranty shall become the property of the State of Illinois, and shall be considered as payment of damages due to delay and other causes suffered by the State because of the failure to execute said contract and contract bond; otherwise, the bid bond shall become void or the proposal guaranty check shall be returned to the undersigned.

**Attach Cashier's Check or Certified Check Here**

In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual proposal. If the guaranty check is placed in another proposal, state below where it may be found.

The proposal guaranty check will be found in the proposal for:

Item \_\_\_\_\_

Section No. \_\_\_\_\_

County \_\_\_\_\_

**Mark the proposal cover sheet as to the type of proposal guaranty submitted.**

BD 354 (Rev. 11/2001)

**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. **CERTIFICATE OF AUTHORITY.** The undersigned bidder, if a business organized under the laws of another State, assures the Department that it will furnish a copy of its certificate of authority to do business in the State of Illinois with the return of the executed contract and bond. Failure to furnish the certificate within the time provided for execution of an awarded contract may be cause for cancellation of the award and forfeiture of the proposal guaranty to the State.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER -

62302

State Job # - C-91-419-01  
 PPS NBR - 1-74823-0501  
 County Name - COOK- -  
 Code - 31 - -  
 District - 1 - -  
 Section Number - (1818,ETC,2324.6-1P)R-9

Project Number  
 ACIM-0943/398/055

Route  
 FAI 94/90  
 (SB)

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
XX001854	STAB SUB-BASE 6	SQ YD	215,074.000				
XX004201	PAVT REINFORCEMENT 14	SQ YD	146,650.000				
XX004812	VIDEO TAPE OF SEWERS	FOOT	713.000				
XX005489	STEEL CASING 48	FOOT	85.000				
X0320870	BRACED EXCAVATION	CU YD	5,499.000				
X0322256	TEMP INFO SIGNING	SQ FT	957.000				
X0323221	PLUG & ABAND EX PIPE	CU YD	567.000				
X0323426	SED CONT DR ST INL CL	EACH	222.000				
X0323988	TEMP SOIL RETEN SYSTM	SQ FT	53,371.000				
X0324112	BARRIER BASE	FOOT	29,867.000				
X0324431	TEMP SOIL RET SYS RIP	SQ FT	16,000.000				
X0324455	DRILL/SET SOLD P SOIL	CU FT	54,685.000				
X0324697	SOIL STABILIZERS	POUND	163,129.000				
X0324698	APPLY DUST SUP AGENTS	UNIT	110.000				
X0325080	VIDEO TAPING MWRD CUL	FOOT	245.000				



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X0325081	CONC SLAB HY DEM	SQ YD	237.000				
X0325082	CTA BAR REM	FOOT	21,813.000				
X0325083	CTA FENCE	FOOT	22,921.000				
X0325084	CTA GATES	EACH	24.000				
X0325085	TEMP PAVT INTERSTATE	SQ YD	10,717.000				
X0325086	TEMP CTA BALLAST RET	L SUM	1.000				
X4210400	LUG SYSTEM REMOVAL	EACH	3.000				
X4810100	TEMP SHOULDERS	SQ YD	6,990.000				
X4834090	PCC SHOULDERS 14	SQ YD	57,423.000				
X5120905	FUR SOLD PILE W 12X72	FOOT	2,520.000				
X5120907	FUR SOLD PIL W 12X120	FOOT	9,330.000				
X5120952	FUR SOLD PIL W 24X106	FOOT	4,800.000				
X6020166	DR STR T1 SP 2T20F&G	EACH	53.000				
X6020167	DR STR T2 SP 2T22F&G	EACH	4.000				
X6063600	COMB CC&G TM4.24	FOOT	674.000				

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X6370910	CONC BAR 1F 32HT	FOOT	2,672.000				
X6370925	CONC BAR 1F 42 SPL	FOOT	21,918.000				
X6370927	CONC BAR 1F 72 SPL	FOOT	166.000				
X6370930	CONC BAR 2F 32HT	FOOT	2,677.000				
X6370935	CONC BAR 1F 32 MOD	FOOT	815.000				
X7011008	TC-PROT ALT ROUTE SN	CAL MO	10.000				
X7011015	TR C-PROT EXPRESSWAYS	L SUM	1.000				
X7013820	TR CONT SURVEIL EXPWY	CAL DA	270.000				
X7015000	CHANGEABLE MESSAGE SN	CAL MO	55.000				
X7040600	FUR TEMP CONC BARRIER	FOOT	15,824.000				
X7330105	OSS WALKWAY TY A	FOOT	56.000				
X7330110	OSS WALKWAY CANT TA	FOOT	46.000				
X8100042	CON ENC CONC 3 PVC	FOOT	1,133.000				
X8160380	UD 3#2 #4G EPRRH1.25	FOOT	825.000				
X8210015	TEMP LUM HPSV 400	EACH	5.000				

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X8950610	REM REL EXIST LT UNIT	EACH	5.000				
Z0002600	BAR SPLICERS	EACH	277.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0018500	DRAINAGE STR CLEANED	EACH	42.000				
Z0018800	DRAINAGE SYSTEM	L SUM	1.000				
Z0018900	DRILL-GROUT DOW BARS	EACH	6,494.000				
Z0026420	STEEL CASING 60	FOOT	259.000				
Z0029999	IMPACT ATTENUATOR REM	EACH	6.000				
Z0030070	IMP ATTEN SU NAR TL3	EACH	2.000				
Z0030150	IMPACT ATTEN NRD TL3	EACH	1.000				
Z0030250	IMP ATTN TEMP NRD TL3	EACH	5.000				
Z0040530	PIPE UNDERDRAIN REMOV	FOOT	489.000				
Z0048665	RR PROT LIABILITY INS	L SUM	1.000				
Z0068426	STEEL CASING 66	FOOT	161.000				
20200100	EARTH EXCAVATION	CU YD	215,989.000				

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20700220	POROUS GRAN EMBANK	CU YD	965.000				
20800150	TRENCH BACKFILL	CU YD	33,825.000				
20900410	SAND BACKFILL	CU YD	680.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	215,074.000				
21101615	TOPSOIL F & P 4	SQ YD	1,865.000				
21101630	TOPSOIL F & P 8	SQ YD	3,762.000				
21101815	COMPOST F & P 4	SQ YD	3,762.000				
21301052	EXPLOR TRENCH 52	FOOT	1,518.000				
25000210	SEEDING CL 2A	ACRE	1.000				
25000400	NITROGEN FERT NUTR	POUND	105.000				
25000500	PHOSPHORUS FERT NUTR	POUND	105.000				
25000600	POTASSIUM FERT NUTR	POUND	105.000				
25100115	MULCH METHOD 2	ACRE	1.000				
25100630	EROSION CONTR BLANKET	SQ YD	5,629.000				
28000250	TEMP EROS CONTR SEED	POUND	117.000				

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28000400	PERIMETER EROS BAR	FOOT	975.000				
28000510	INLET FILTERS	EACH	221.000				
31101860	SUB GRAN MAT B 24	SQ YD	224,179.000				
42001165	BR APPR PAVT	SQ YD	452.000				
42001300	PROTECTIVE COAT	SQ YD	233,564.000				
42100380	CONT REINF PCC PVT 14	SQ YD	146,651.000				
42101448	LUG SYSTEM COMPL 48	EACH	3.000				
44000013	BIT SURF REM 5	SQ YD	143.000				
44000030	BIT SURF REM VAR DP	SQ YD	82.000				
44000100	PAVEMENT REM	SQ YD	161,041.000				
44000500	COMB CURB GUTTER REM	FOOT	6,313.000				
44000700	APPROACH SLAB REM	SQ YD	219.000				
44001980	CONC BARRIER REMOV	FOOT	24,208.000				
44004250	PAVED SHLD REMOVAL	SQ YD	61,779.000				
44201423	CL C PATCH T1 16	SQ YD	25.000				

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44201427	CL C PATCH T2 16	SQ YD	60.000				
44201431	CL C PATCH T3 16	SQ YD	50.000				
48202400	BIT SHLD SUPER 6	SQ YD	36.000				
50200100	STRUCTURE EXCAVATION	CU YD	3,909.000				
50300225	CONC STRUCT	CU YD	916.000				
50300255	CONC SUP-STR	CU YD	1,162.200				
50300260	BR DECK GROOVING	SQ YD	212.000				
50300300	PROTECTIVE COAT	SQ YD	4,710.000				
50301245	FORM CONC REP =< 5	SQ FT	655.000				
50301250	FORM CONC REP > 5	SQ FT	40.000				
50700209	UNTREATED TIMBER LAG	SQ FT	16,237.000				
50800205	REINF BARS, EPOXY CTD	POUND	196,985.000				
550A0050	STORM SEW CL A 1 12	FOOT	4,684.000				
550A0070	STORM SEW CL A 1 15	FOOT	1,041.000				
550A0090	STORM SEW CL A 1 18	FOOT	29.000				

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550A0110	STORM SEW CL A 1 21	FOOT	202.000				
550A0120	STORM SEW CL A 1 24	FOOT	9.000				
550A0340	STORM SEW CL A 2 12	FOOT	4,615.000				
550A0360	STORM SEW CL A 2 15	FOOT	1,117.000				
550A0380	STORM SEW CL A 2 18	FOOT	2,126.000				
550A0400	STORM SEW CL A 2 21	FOOT	3,557.000				
550A0410	STORM SEW CL A 2 24	FOOT	1,479.000				
550A0420	STORM SEW CL A 2 27	FOOT	1,786.000				
550A0430	STORM SEW CL A 2 30	FOOT	2,688.000				
550A0440	STORM SEW CL A 2 33	FOOT	279.000				
550A0450	STORM SEW CL A 2 36	FOOT	3,886.000				
550A0470	STORM SEW CL A 2 42	FOOT	1,623.000				
550A0480	STORM SEW CL A 2 48	FOOT	163.000				
550A0640	STORM SEW CL A 3 12	FOOT	259.000				
550A0680	STORM SEW CL A 3 18	FOOT	257.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 62302

State Job # - C-91-419-01  
 PPS NBR - 1-74823-0501  
 County Name - COOK- -  
 Code - 31 - -  
 District - 1 - -  
 Section Number - (1818,ETC,2324.6-1P)R-9

Project Number  
 ACIM-0943/398/055

Route  
 FAI 94/90  
 (SB)

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
550A0700	STORM SEW CL A 3 21	FOOT	133.000				
550A0710	STORM SEW CL A 3 24	FOOT	357.000				
550A0730	STORM SEW CL A 3 30	FOOT	442.000				
550A0740	STORM SEW CL A 3 33	FOOT	120.000				
550A0750	STORM SEW CL A 3 36	FOOT	321.000				
550B0050	STORM SEW CL B 1 12	FOOT	486.000				
550B0070	STORM SEW CL B 1 15	FOOT	26.000				
55100300	STORM SEWER REM 8	FOOT	692.000				
55100400	STORM SEWER REM 10	FOOT	6,619.000				
55100500	STORM SEWER REM 12	FOOT	4,957.000				
55100700	STORM SEWER REM 15	FOOT	3,199.000				
55100900	STORM SEWER REM 18	FOOT	4,072.000				
55101100	STORM SEWER REM 21	FOOT	613.000				
55101200	STORM SEWER REM 24	FOOT	3,683.000				
55101300	STORM SEWER REM 27	FOOT	685.000				



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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
55101400	STORM SEWER REM 30	FOOT	1,199.000				
55101600	STORM SEWER REM 36	FOOT	328.000				
55101800	STORM SEWER REM 42	FOOT	57.000				
552A1300	SS JKD CL A 36	FOOT	85.000				
552A1500	SS JKD CL A 42	FOOT	259.000				
552A1600	SS JKD CL A 48	FOOT	161.000				
59000100	EPOXY CRACK SEALING	FOOT	124.000				
60107700	PIPE UNDERDRAINS 6	FOOT	51,849.000				
60108200	PIPE UNDERDRAIN 6 SP	FOOT	636.000				
60109000	P UNDR PER COR S P 12	FOOT	399.000				
60109582	P UNDR FOR STRUCT 6	FOOT	1,100.000				
60200105	CB TA 4 DIA T1F OL	EACH	19.000				
60200805	CB TA 4 DIA T8G	EACH	2.000				
60201310	CB TA 4 DIA T20F&G	EACH	266.000				
60203805	CB TA 5 DIA T1F OL	EACH	2.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60205010	CB TA 5 DIA T20F&G	EACH	2.000				
60208210	CB TC T20F&G	EACH	6.000				
60218400	MAN TA 4 DIA T1F CL	EACH	47.000				
60221100	MAN TA 5 DIA T1F CL	EACH	151.000				
60223800	MAN TA 6 DIA T1F CL	EACH	6.000				
60240210	INLETS TB T1F OL	EACH	1.000				
60240324	INLETS TB T20F&G	EACH	35.000				
60248000	JUNCTION CHAMBER N1	EACH	1.000				
60248100	JUNCTION CHAMBER N2	EACH	1.000				
60248200	JUNCTION CHAMBER N3	EACH	1.000				
60248300	JUNCTION CHAMBER N4	EACH	1.000				
60248400	JUNCTION CHAMBER N5	EACH	1.000				
60248500	JUNCTION CHAMBER N6	EACH	1.000				
60248600	JUNCTION CHAMBER N7	EACH	1.000				
60248610	JUNCTION CHAMBER N8	EACH	1.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60248620	JUNCTION CHAMBER N9	EACH	1.000				
60248630	JUNCTION CHAMBER N10	EACH	1.000				
60248640	JUNCTION CHAMBER N11	EACH	1.000				
60248650	JUNCTION CHAMBER N12	EACH	1.000				
60250400	CB ADJ NEW T1F OL	EACH	35.000				
60255800	MAN ADJ NEW T1F CL	EACH	35.000				
60260300	INLETS ADJ NEW T1F OL	EACH	64.000				
60500040	REMOV MANHOLES	EACH	192.000				
60500050	REMOV CATCH BAS	EACH	276.000				
60500060	REMOV INLETS	EACH	53.000				
60500105	FILL MANHOLES	EACH	36.000				
60500205	FILL CATCH BAS	EACH	29.000				
60618324	CONC MEDIAN SURF 6 SP	SQ FT	20,852.000				
63100085	TRAF BAR TERM T6	EACH	1.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	1.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
63700805	CONC BAR TRANS	FOOT	1,550.000				
66400560	CH LK FENCE 6 SPL	FOOT	26,810.000				
66402900	CH LK GATE 6X6 SINGL	EACH	24.000				
67000600	ENGR FIELD LAB	CAL MO	9.000				
67100100	MOBILIZATION	L SUM	1.000				
70300240	TEMP PVT MK LINE 6	FOOT	32,439.000				
70300510	PAVT MARK TAPE T3 L&S	SQ FT	255.000				
70300520	PAVT MARK TAPE T3 4	FOOT	109,139.000				
70300530	PAVT MARK TAPE T3 5	FOOT	16,776.000				
70300550	PAVT MARK TAPE T3 8	FOOT	17,324.000				
70300560	PAVT MARK TAPE T3 12	FOOT	3,916.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	58,401.000				
70400100	TEMP CONC BARRIER	FOOT	22,222.000				
70400200	REL TEMP CONC BARRIER	FOOT	24,760.000				
72000100	SIGN PANEL T1	SQ FT	12.000				

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72000200	SIGN PANEL T2	SQ FT	891.000				
72000300	SIGN PANEL T3	SQ FT	2,342.000				
72100100	SIGN PANEL OVERLAY	SQ FT	3.000				
72400320	REMOV SIGN PANEL T2	SQ FT	64.000				
72400330	REMOV SIGN PANEL T3	SQ FT	1,364.000				
72400730	RELOC SIGN PANEL T3	SQ FT	948.000				
72700100	STR STL SIN SUP BA	POUND	3,150.000				
72800100	TELES STL SIN SUPPORT	FOOT	88.000				
73000100	WOOD SIN SUPPORT	FOOT	1,070.000				
73300100	OVHD SIN STR-SPAN T1A	FOOT	217.000				
73300300	OVHD SIN STR-SPAN T3A	FOOT	138.000				
73302210	OSS CANT 3CA 3-0X7-0	FOOT	62.000				
73304000	OVHD SIN STR BR MT	FOOT	70.000				
73305000	OVHD SIN STR WALKWAY	FOOT	297.000				
73400100	CONC FOUNDATION	CU YD	10.000				

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73400200	DRILL SHAFT CONC FDN	CU YD	227.000				
73600100	REMOV OH SIN STR-SPAN	EACH	8.000				
73600200	REMOV OH SIN STR-CANT	EACH	2.000				
73700300	REM CONC FDN-OVHD	EACH	21.000				
78005100	EPOXY PVT MK LTR-SYM	SQ FT	254.000				
78005110	EPOXY PVT MK LINE 4	FOOT	104,855.000				
78005120	EPOXY PVT MK LINE 5	FOOT	27,987.000				
78005140	EPOXY PVT MK LINE 8	FOOT	20,967.000				
78005150	EPOXY PVT MK LINE 12	FOOT	5,511.000				
78200100	MONODIR PRIS BAR REFL	EACH	1,531.000				
78200530	BAR WALL MKR TYPE C	EACH	444.000				
78201000	TERMINAL MARKER - DA	EACH	1.000				
78300100	PAVT MARKING REMOVAL	SQ FT	27,371.000				
80700140	GROUND ROD 5/8 X 10	EACH	1.000				
80800525	TEMP WP60 CL4 15MA	EACH	5.000				

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81000600	CON T 2 GALVS	FOOT	869.000				
81200270	CON EMB STR 4 PVC	FOOT	775.000				
81302630	JUN BX NM ES 21X11X8	EACH	1.000				
81400200	HD HANDHOLE	EACH	18.000				
81400205	HD HANDHOLE SPL	EACH	2.000				
81500200	TR & BKFIL F ELECT WK	FOOT	919.000				
81800700	A CBL 3-1C2 AL MESS W	FOOT	700.000				
84100110	REM TEMP LIGHT UNITS	EACH	5.000				
84200800	POLE FOUNDATION RM	EACH	134.000				

**CONTRACT NUMBER**

**62302**

**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. By execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances has 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 termination of the contract and the suspension or debarment of the bidder.

#### II. ASSURANCES

A. 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. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous assurance, and the surety providing the performance bond shall be responsible for the completion of the contract.

##### 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 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. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-10.

##### C. 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 \$150,700.00. Sixty percent of the salary is \$90,420.00.

## 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.

### **D. 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.

### **E. 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.

### **F. Revolving Door Prohibition**

1. The Illinois Procurement Code provides:

Section 50-30. Revolving door prohibition. Chief procurement officers, associate procurement officers, State purchasing officers, 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.

### **G. 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.

### **H. 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

### **I. 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**

**A.** 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. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous certification, and the surety providing the performance bond shall be responsible for completion of the contract.

#### **B. 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 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, 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 shall contain a certification by the contractor that the contractor is not barred from being awarded a contract or subcontract under this Section. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

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

#### **C. 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.

#### **D. 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.

## RETURN WITH BID

(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.

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.

### **E. 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.

### **F. 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.

**G. Debt Delinquency**

1. The Illinois Procurement Code provides:

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

The contractor or bidder certifies that it, or any affiliate, is not barred from being awarded a contract under 30 ILCS 500. Section 50-11 prohibits a person from entering into a contract with a State agency 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 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 contractor further acknowledges that the contracting State agency may declare the contract void if this certification is false or if the contractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

**H. Sarbanes-Oxley Act of 2002**

1. The Illinois Procurement Code provides:

Section 50-60(c).

The contractor 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 for a period of five years prior to the date of the bid or contract. The contractor acknowledges that the contracting agency shall declare the contract void if this certification is false.

**I. ADDENDA**

The contractor or bidder certifies that all relevant addenda have been incorporated in to this contract. Failure to do so may cause the bid to be declared unacceptable.

**J. Section 42 of the Environmental Protection Act**

The contractor certifies in accordance with 30 ILCS 500/50-12 that the bidder or contractor is not barred from being awarded a contract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency 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 contractor acknowledges that the contracting agency may declare the contract void if this certification is false.

**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.

## TO BE RETURNED 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 Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous disclosure, 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 \$10,000 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.

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.

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 or incorporated by reference.**

### **C. Disclosure Form Instructions**

#### **Form A: For bidders that have previously submitted the information requested in Form A**

The Department has retained the Form A disclosures submitted by all bidders responding to these requirements for the April 24, 1998 or any subsequent letting conducted by the Department. The bidder has the option of submitting the information again or the bidder may sign the following certification statement indicating that the information previously submitted by the bidder is, as of the date of signature, current and accurate. The Certification must be signed and dated by a person who is authorized to execute contracts for the bidding company. Before signing this certification, the bidder should carefully review its prior submissions to ensure the Certification is correct. If the Bidder signs the Certification, the Bidder should proceed to Form B instructions.

### CERTIFICATION STATEMENT

**I have determined that the Form A disclosure information previously submitted is current and accurate, and all forms are hereby incorporated by reference in this bid. Any necessary additional forms or amendments to previously submitted forms are attached to this bid.**

\_\_\_\_\_  
(Bidding Company)

\_\_\_\_\_  
Name of Authorized Representative (type or print)

\_\_\_\_\_  
Title of Authorized Representative (type or print)

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

\_\_\_\_\_  
Date

**Form A: For bidders who have NOT previously submitted the information requested in Form A**

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 the second page of 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 \$90,420.00? YES \_\_\_ NO \_\_\_
3. Does anyone in your organization receive more than \$90,420.00 of the bidding entity's or parent entity's distributive income? (Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not 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 \$90,420.00? 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 on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

**Form B: Identifying Other Contracts & Procurement Related Information** Disclosure Form B must be completed for each bid submitted by the bidding entity. It must be signed by an individual who is authorized to execute contracts for the bidding entity. *Note: Signing the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, signed 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 signature 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.

**D. Bidders Submitting More Than One Bid**

Bidders submitting multiple bids may submit one set of forms consisting of all required Form A disclosures and one Form B for use with all bids. Please indicate in the space provided below the bid item that contains the original disclosure forms and the bid items which incorporate the forms by reference.

- The bid submitted for letting item \_\_\_\_\_ contains the Form A disclosures or Certification Statement and the Form B disclosures. The following letting items incorporate the said forms by reference:

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RETURN WITH BID/OFFER

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 \$10,000, 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.

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 \$90,420.00 (60% of the Governor's salary as of 7/1/01). (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 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) provide the name the State agency for which you are employed and your annual salary.



**RETURN WITH BID/OFFER**

- 3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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 the 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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 2 times the salary of the Governor? Yes \_\_\_ No \_\_\_

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(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 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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. \_\_\_\_\_

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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 \$90,420.00, (60% of the salary of the Governor as of 7/1/01) 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 the 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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 2 times the salary of the Governor?

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

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(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 \_\_\_

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(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter.

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

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(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 \_\_\_

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(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter.

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

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(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government.

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

**RETURN WITH BID/OFFER**

(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 \_\_\_

**APPLICABLE STATEMENT**

**This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page.**

Completed by: \_\_\_\_\_  
Name of Authorized Representative (type or print)

Completed by: \_\_\_\_\_  
Title of Authorized Representative (type or print)

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

**NOT APPLICABLE STATEMENT**

**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.**

\_\_\_\_\_  
Name of Authorized Representative (type or print)

\_\_\_\_\_  
Title of Authorized Representative (type or print)

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

RETURN WITH BID/OFFER

**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 \$10,000, 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 SIGNED**

_____	
Name of Authorized Representative (type or print)	
_____	
Title of Authorized Representative (type or print)	
_____	_____
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. 62302  
COOK County  
Section (1818,ETC,2324.6-1P)R-9  
Project ACIM-943(398)55  
Route FAI 94/90 (SB)  
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. 62302  
COOK County  
Section (1818,ETC,2324.6-1P)R-9  
Project ACIM-943(398)55  
Route FAI 94/90 (SB)  
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 \_\_\_\_\_

(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW) Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
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

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)
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 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

# 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. 62302  
COOK County  
Section (1818,ETC,2324.6-1P)R-9  
Project ACIM-943(398)55  
Route FAI 94/90 (SB)  
District 1 Construction Funds**



**Illinois Department of Transportation**



## NOTICE TO BIDDERS

- 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., August 5, 2005. 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. 62302  
COOK County  
Section (1818,ETC,2324.6-1P)R-9  
Project ACIM-943(398)55  
Route FAI 94/90 (SB)  
District 1 Construction Funds**

**5.25 miles of reconstruction of FAI Route 94/90 (Dan Ryan Expressway) southbound from 31st Street to 71st Street, including repairs to 2 existing structures, overhead sign structures, storm sewers and pavement markings located in Chicago.**

- 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

Timothy W. Martin, Secretary

BD 351 (Rev. 01/2003)

FAI Route 94/90 (Dan Ryan Expressway)  
31st Street to 71st Street (SB Express Lanes)  
Section (1818, ETC, 2324.6-1P)R-9  
Cook County

INDEX FOR SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS  
Adopted March 1, 2005

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-02) (Revised 3-1-05)

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## **STATE OF ILLINOIS**

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### **SPECIAL PROVISIONS**

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1, 2002, 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 FAI Route 94/90 (Dan Ryan Expressway), Section (1818, ETC, 2324.6-1P)R-9, Project: ACIM-094-3(398)055, in Cook County and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

#### **LOCATION OF IMPROVEMENT**

This improvement is located in the City of Chicago in Cook County, Illinois. The roadway improvement includes the reconstruction of express lanes for the southbound Dan Ryan Expressway between 71st Street and 31st Street. The approximate total roadway distance is 5.22 miles.

#### **DESCRIPTION OF PROJECT**

Project includes the reconstruction of the northbound express lanes of the Dan Ryan Expressway from 71st Street to 31st Street. Work for this portion of this contract includes removal of existing pavement and barrier walls, earth excavation, construction of sewers and drainage structures, temporary sewer connections, combination curb & gutters, granular sub-base, stabilized bituminous sub-base, continuously reinforced concrete pavement, concrete barrier wall, signage, pavement markings, landscaping, and erosion control. All incidental and collateral work necessary to complete this project as shown on the plans and described herein are also included in the project.

Structural work to be performed under this contract consists of removal of sheet piling, installation of sheet piling, structure excavation, construction of junction chambers, and construction a concrete box culvert. All incidental and collateral work necessary to complete this project as shown on the plans and described herein are also included in the project.

**RAILROAD PROTECTIVE LIABILITY INSURANCE**

The contractor will be required to carry Railroad Protective Liability and Property Damage Liability Insurance in accordance with Article 107.11 of the Standard Specifications. The limits of liability shall be in accordance with Article 107.11 of the Standard Specifications unless otherwise noted. A separate policy is required for each railroad indicated below unless otherwise noted.

NAMED INSURED & ADDRESS	No. & SPEED OF PASSENGER TRAINS	No. & SPEED OF FREIGHT TRAINS
Chicago Transit Authority (CTA) 120 N. Racine Chicago, IL 60607	<u>Red Line</u> M-F 382 trains / day @ 55 mph Sat. 338 trains / day @ 55 mph Sun. 356 trains / day @ 55 mph <u>Green Line</u> M-F ___ trains / day @ 55 mph Sat. ___ trains / day @ 55 mph Sun. ___ trains / day @ 55 mph	-0-
METRA 547 West Jackson Boulevard Chicago, IL 60661	63 train / day @ 70mph	8 train / day @ 40mph
Chicago RailLink Omni Trax, Inc. 252 Clayton Street 4 <sup>th</sup> floor Denver, Colorado 80206	- 0 -	1 train / day @ 10mph

For freight/passenger information on CTA contact: Mr. Marvin A. Watson at (312) 681-3860

For freight/passenger information on METRA contact: Kelly Brunette at (312) 322-6991

For freight/passenger information on Chicago RailLink contact: Lucky Mitchel at (773) 978-8637.

For insurance information on Chicago RailLink contact: Lisa Gallovich at (303) 393-0033

**Basis of Payment:** The costs for providing insurance, as noted above, will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

**APPROVAL OF INSURANCE:** The ORIGINAL\* and one CERTIFIED copy of each required policy shall be submitted to ENGINEER OF DESIGN, ILLINOIS DEPARTMENT OF TRANSPORTATION, 2300 SOUTH DIRKSEN PARKWAY, SPRINGFIELD, ILLINOIS 62764 for approval. The contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Resident Engineer evidence that the required railroad protective liability insurance has been approved by the railroad(s). The Contractor shall also provide the Resident Engineer with expiration date of each required policy.

FAI Route 94/90 (Dan Ryan Expressway)  
31st Street to 71st Street (SB Express Lanes)  
Section (1818, ETC, 2324.6-1P)R-9  
Cook County

\* An additional ORIGINAL of required policy shall be submitted to the CTA.

**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**

Name of Utility	Type	Location	Estimated Dates for Start and Completion of Relocation or Adjustment
City of Chicago	54" Sewer	approx Sta. 1385+44	Sewer to remain in place. Contractor responsible for pipe protection during construction per plan drawings and for permanent sewer cap protection as per plan.
City of Chicago	36" Water Main	approx Sta. 1533+36 (46 <sup>th</sup> St.)	Water Main to remain in place. Contractor responsible for pipe protection during construction per plan drawings and for permanent sewer cap protection as per plan.
City of Chicago	24" Water main	Approx. Sta. 1543+92 (45 <sup>th</sup> St.)	Existing water main abandoned and new 24" water main in 42" casing pipe constructed under Contract 62692.
City of Chicago	60" sewer	Approx. Sta. 1546+42 (44 <sup>th</sup> Pl.)	Sewer to remain in place. Contractor responsible for pipe protection during construction.

FAI Route 94/90 (Dan Ryan Expressway)  
 31st Street to 71st Street (SB Express Lanes)  
 Section (1818, ETC, 2324.6-1P)R-9  
 Cook County

Name of Utility	Type	Location	Estimated Dates for Start and Completion of Relocation or Adjustment
City of Chicago	6-D City Electric Duct Crossing	Approx. Sta. 1588+98 (38 <sup>th</sup> St.)	Conflicting information has been received. S.U.E. Quality Level "A" test holes have been requested for this duct. No elevation information on this duct crossing is currently available.
City of Chicago	24" water main	Approx. Sta. 1595+02 (37 <sup>th</sup> St.)	Existing water main abandoned and new 24" water main in 42" casing pipe constructed under Contract 62691.
City of Chicago	36" watermain	Approx. Sta. 1628+30 (32 <sup>nd</sup> St.)	Existing water main abandoned and new 36" water main in 54" casing pipe constructed under Contract 62691.
Chicago Transit Authority	Various	From Station 1367+00 to Station 1638+44 (project limits)	The Contractor is alerted that there are existing surface and underground facilities within the CTA operating area. These facilities may include, but are not limited to, Power Distribution Cables, Train Control Signal Cables, and Communication Service Lines. The exact location of these facilities is not known. It will be the Contractor's responsibility to obtain this information from the CTA before proceeding with any work within the CTA operating area. Extreme caution must be exercised by the Contractor when doing any excavation or other sub-surface work within the CTA operating area.
Chicago Transit Authority	Electrical Duct in 54" Steel Casing	Approx. Sta. 1578+18 (40 <sup>rd</sup> St.)	There is no anticipated conflict with this duct crossing.



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Name of Utility	Type	Location	Estimated Dates for Start and Completion of Relocation or Adjustment
Chicago Transit Authority	1" water supply	Approx. Sta. 1621+65 (33 <sup>rd</sup> St.)	New 1" service line constructed under Contract 62691
People's Energy	24" Gas	approx Sta. 1372+04 (70 <sup>th</sup> St.)	There is no anticipated conflict with this gas main.
People's Energy	16" Gas Main	approx. Sta. 1421+50 (63 <sup>rd</sup> St.)	This utility should have already been purged (abandoned) because of conflicts with contract 62589 construction. It is also anticipated that portions may have already been removed during the construction of Contract 62589. People's Energy will verify abandonment. People's Energy believes that this gas main may be contaminated, so it will be the utilities responsibility to remove it during construction.
People's Energy	20" Gas Main	approx. Sta. 2461+84 (57 <sup>th</sup> St.)	Proposed underdrains may be in conflict with this gas main. The gas main will remain in place and a note will be added to the status of utilities that underdrain profiles may have to be adjusted in the field to avoid conflict.
People's Energy	20" Gas Main	approx. Sta. 1527+11 (47 <sup>th</sup> St.)	Proposed underdrains may be in conflict with this gas main. The gas main will remain in place and a note will be added to the status of utilities that underdrain profiles may have to be adjusted in the field to avoid conflict.
People's Energy	36" Gas Main	Approx. Sta. 1628+89 (32 <sup>nd</sup> St.)	There is no anticipated conflict with this gas main crossing.

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Name of Utility	Type	Location	Estimated Dates for Start and Completion of Relocation or Adjustment
SBC	9-MCD	Approx. Sta. 1636+20 (31 <sup>st</sup> St.)	There is no anticipated conflict with this duct crossing.
SBC	48" Duct	Approx. Sta. 1595+94 (37 <sup>th</sup> St.)	There is no anticipated conflict with this duct crossing.
SBC	18-MCD (24" Duct)	Approx. Sta. 1580+19 (39 <sup>th</sup> St.)	There is no anticipated conflict with this duct crossing.
SBC	36-MCD	Approx. Sta. 1565+19 (Root St.)	S.U.E. Quality Level "A" test holes have been requested for this duct crossing.
SBC	36-MTD	Approx. Sta. 1542+87 (45 <sup>th</sup> St.)	There is no anticipated conflict with this crossing.
SBC	36-MTD	Approx. Sta. 1537+45 (46 <sup>th</sup> St.)	There is no anticipated conflict with this crossing.
SBC	18-MTD	(51 <sup>st</sup> St.)	According to SBC this crossing is about 5 feet deep should not be in conflict.
SBC	Duct	Approx. Sta. 1441+42 (60 <sup>th</sup> St.)	SBC indicated that this duct is abandoned. It is not in conflict with proposed construction.
SBC	30-MTD	Approx. Sta. 1423+01 (63 <sup>rd</sup> St.)	There is no anticipated conflict with this duct crossing.
SBC	36-MTD Crossing	Approx. Sta. 1412+87 (Wentworth Ave.)	There is no anticipated conflict with duct crossing
SBC	18-MTD	Approx. Sta. 1378+20 (69 <sup>th</sup> St.)	There is no anticipated conflict with this duct crossing.

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Name of Utility	Type	Location	Estimated Dates for Start and Completion of Relocation or Adjustment
ComEd	15" Concrete Duct	Approx. Sta. 1634+80 (31 <sup>st</sup> St.)	Duct is currently not in use, carrying no ComEd cables. ComEd indicated that this duct does not need to be maintained, but would like to keep it if possible. This duct should remain in place if possible. No reliable elevation information on this duct is currently available.
ComEd	15" Concrete Duct	Approx. Sta 1565+43 (Root St.)	This duct is currently not in use, carrying no ComEd cables. ComEd intends to maintain this duct for use during upcoming reconstruction of the Root Street Bridge. S.U.E. Quality Level "A" test holes have been requested for this duct. No reliable elevation information is currently available for this duct crossing.
ComEd	6H x 3W Duct	Approx Sta. 1551+55 (44 <sup>th</sup> St.)	There are no anticipated conflicts with this duct crossing.
ComEd	6H x 3W Duct	Approx. Sta 1441+83 (60 <sup>th</sup> St.)	ComEd is removing the top 3 rows (33" approx) from this duct package because of a conflict with contract 62586. No conflict is anticipated with this contract.
ComEd	Duct	Approx. Sta. 1421+58 (63 <sup>rd</sup> St.)	Top two rows of duct were removed in contract 62589 and can be removed for the express lane reconstruction.
ComEd	Duct	Approx. Sta. 1379+75 (69 <sup>th</sup> St.)	There are no anticipated conflicts with this duct crossing.

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

**CONTRACTOR COOPERATION**

The Contractor's attention is directed to the fact that other separate contracts may be under construction during the duration of this Contract and that the Contractor will be governed by Article 105.08 of the Standard Specifications.

The Contractor will coordinate proposed project start dates and sequence of construction with the Engineer and other Contractors to present an effective and timely schedule for successful completion of the project.

No additional compensation will be allowed the Contractor for the above requirements or for any delays or inconvenience resulting from the activities of other contractors.

**COORDINATION WITH ADJACENT AND/OR OVERLAPPING CONTRACTS**

This Contract abuts and/or overlaps with other concurrent Contracts as listed below. Each Contract includes work items requiring close coordination between the Contractors regarding the sequence and timing for the execution of such work items.

- Contract 60308 (Dan Ryan # 4)      Bridge Rehabilitation at Root Street
- Contract 62583 (Dan Ryan #2)      Lighting and Surveillance Design
- Contract 62585 (Dan Ryan #5)      NB Ramps from 31<sup>st</sup> St. to Pershing Road

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Contract 62580 (Dan Ryan #13)	NB Elevated Bridge Repair from 15 <sup>th</sup> to 28 <sup>th</sup> Streets
Contract 62300 (Dan Ryan #14)	NB Express Lanes from 31 <sup>st</sup> to 71 <sup>st</sup> St.
Contract 62592 (Dan Ryan #23A)	NB Outside Lanes (4,5 shoulder) from 71 <sup>st</sup> St to I-57 Interchange
Contract 62693 (Dan Ryan #23B)	SB Outside Lanes (4,5 shoulder) from 71 <sup>st</sup> St to I-57 Interchange

Supplemental to the requirements of the Standard Specifications article 105.08- Cooperation Between Contractors, the Contractors shall identify all such work items at the beginning of the Contract, and coordinate sequence and timing for their execution with the other Contractors through the Engineer. These work items shall be identified as separate line items in the Contractors' proposed Construction and Progress Schedule. Any conflicts between Contractors' schedules, the Department will be consulted through the Engineer to determine a resolution. Additional compensation or extension of the contract time will not be allowed for work and/or progress and/or lack of progress affected by lack of such coordination by the Contractor.

**EXPRESS LANE RECONSTRUCTION: START DATE**

The contractor will not be allowed to proceed with any construction operations on the roadway that may require overnight lane closures prior to March 1, 2006. Nighttime lane closures may be allowed with written permission from the District's Bureau of Traffic.

**FAILURE TO COMPLETE THE WORK ON TIME (FINAL)**

Effective: September 30, 1985 Revised: June 28, 1996

Should the Contractor fail to complete the work on or before the completion date as specified in the Special Provision for "Completion Date Plus Guaranteed Working Days", or within such extended time as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of \$25,000, not as a penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed.

In fixing the damages as set out herein, the desire is to establish a certain mode of calculation for the work since the Department's actual loss, in the event of delay, cannot be predetermined, would be difficult of ascertainment, and a matter of argument and unprofitable litigation. This said mode is an equitable rule for measurement of the Department's actual loss and fairly takes into account the loss of use of the roadway if the project is delayed in completion. The Department shall not be required to provide any actual loss in order to recover these liquidated damages provided herein, as said damages are very difficult to ascertain. Furthermore, no provision of this clause shall be construed as a penalty, as such is not the intention of the parties.

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four hours later.

**COMPLETION DATE PLUS GUARANTEED WORKING DAYS (FINAL)**

The Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on October 31, 2006 except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within 5 guaranteed 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 guaranteed 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.

Article 108.09 of the Standard Specifications or the 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.

**INCENTIVE PAYMENT PLAN (FINAL)**

Effective: October 1, 1995                      Revised: November 1, 1995

The Contractor shall be entitled to an incentive payment for completing all contract items and safely opening all roadways to traffic in accordance with the requirements of the special provision "Completion Date Plus Guaranteed Working Days".

The incentive payment shall be paid at the rate of \$25,000 per calendar day for completion of work, as specified above, each day prior to the completion date, as indicated in TABLE A. The maximum payment under this incentive plan will be limited to 15 calendar days.

TABLE A

<u>Date Completed</u> (1)	<u>Incentive Payment</u>	<u>Date Completed</u>	<u>Disincentive Deduction</u>
October 16, 2006	\$375,000	October 31, 2006	\$0*
October 17, 2006	\$350,000	November 1, 2006	\$25,000
October 18, 2006	\$325,000	November 2, 2006	\$50,000
October 19, 2006	\$300,000	November 3, 2006	\$75,000
October 20, 2006	\$275,000	November 4, 2006	\$100,000
October 21, 2006	\$250,000	November 5, 2006	\$125,000
October 22, 2006	\$225,000	November 6, 2006	\$150,000
October 23, 2006	\$200,000	November 7, 2006	\$175,000
October 24, 2006	\$175,000	November 8, 2006	\$200,000
October 25, 2006	\$150,000	November 9, 2006	\$225,000
October 26, 2006	\$125,000	November 10, 2006	\$250,000
October 27, 2006	\$100,000	November 11, 2006	\$275,000
October 28, 2006	\$75,000	November 12, 2006	\$300,000
October 29, 2006	\$50,000	November 13, 2006	\$325,000
October 30, 2006	\$25,000	November 14, 2006	\$350,000
October 31, 2006	*0	November 15, 2006	\$375,000

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\*\*

\* The completion date specified in the contract.

\*\*The disincentive deduction shall be charged until work is completed.

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends the following 12:00 midnight, twenty-four hours later.

Should the Contractor be delayed in the commencement, prosecution or completion of the work for any reason, there shall be no extension of the incentive payment completion date even though there may be granted an extension of time for completion of the work. No incentive will be paid if the Contractor fails to complete the work before the specified completion date. Failure by the Contractor to complete all work as specified above before (2) October 31, 2006 shall release and discharge the State, the Department and all of its officers, agents and employees from any and all claims and demands for payment of any incentive amount or damages arising from the refusal to pay an incentive amount.



**CONSTRUCTION SCHEDULE RESTRICTIONS**

The following restrictions are imposed upon this contract and shall be subject to Liquidated Damages as outlined in the Special Provision for "Failure to Open Traffic Lanes to Traffic".

1. No lane closures in the local lanes will be permitted on Memorial Day weekend and Independence Day weekend and no lane closures in the local lanes and the one additional lane in express lane will be permitted for Labor Day weekend as defined in Article 107.09 of the Standard Specifications.
2. Pavement Patching in local lanes (2006)  
The Contractor shall patch in local lanes after August 15, 2006 during night time hours as specified in "Keeping Expressway Open to traffic".
3. The Contractor of Contract 62300 will be installing 12 storm sewer receiving pits in the South bound express lanes.

(District 1 -6-06-05)

**INTERIM COMPLETION DATE (EXPRESS LANE)**

The contractor shall complete all items of work necessary to open one additional lane of traffic in the express lane as shown on staging plans by August 15, 2006.

(District 1 6-06-05)

**INCENTIVE PAYMENT PLAN (INTERIM COMPLETION DATE (EXPRESS LANE)**

Effective: October 1, 1995

Revised: November 1, 1995

The Contractor shall be entitled to an incentive payment for completing all required contract items and safely opening one lane of express lane to traffic in accordance with the requirements of the special provision "INTERIM COMPLETION DATE (EXPRESS LANE) ".

The incentive payment shall be paid at the rate of \$25,000 per calendar day for completion of work, as specified above, each day prior to the completion date, as indicated in TABLE A. The maximum payment under this incentive plan will be limited to 15 calendar days.

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TABLE A

<u>Date Completed</u>	<u>Incentive Payment</u>	<u>Date Completed</u>	<u>Disincentive Deduction</u>
July 31, 2006	\$375,000	August 16, 2006	\$25,000
August 1, 2006	\$350,000	August 17, 2006	\$50,000
August 2, 2006	\$325,000	August 18, 2006	\$75,000
August 3, 2006	\$300,000	August 19, 2006	\$100,000
August 4, 2006	\$275,000	August 20, 2006	\$125,000
August 5, 2006	\$250,000	August 21, 2006	\$150,000
August 6, 2006	\$225,000	August 22, 2006	\$175,000
August 7, 2006	\$200,000	August 23, 2006	\$200,000
August 8, 2006	\$175,000	August 24, 2006	\$225,000
August 9, 2006	\$150,000	August 25, 2006	\$250,000
August 10, 2006	\$125,000	August 26, 2006	\$275,000
August 11, 2006	\$100,000	August 27, 2006	\$300,000
August 12, 2006	\$75,000	August 28, 2006	\$325,000
August 13, 2006	\$50,000	August 29, 2006	\$350,000
August 14, 2006	\$25,000	August 30, 2006	\$375,000
August 15, 2006*	\$0*	August 31, 2006	\$**

\* The completion date specified in the contract.

\*\*The disincentive deduction shall be charged until work is completed.

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends the following 12:00 midnight, twenty-four hours later.

Should the Contractor be delayed in the commencement, prosecution or completion of the work for any reason, there shall be no extension of the incentive payment completion date even though there may be granted an extension of time for completion of the work. No incentive will be paid if the Contractor fails to complete the work before the specified completion date. Failure by the Contractor to complete all work as specified above before August 15, 2006 shall release and discharge the State, the Department and all of its officers, agents and employees from any and all claims and demands for payment of any incentive amount or damages arising from the refusal to pay an incentive amount.

(District 1 06-06-05)

## **CONTRACTOR'S DAILY WORK SCHEDULE**

### Description:

The Contractor shall submit a daily work schedule to the Resident Engineer for the purpose of coordinating the Contractor's activities for the next working day. The daily schedule must be submitted by 3:00 pm the day before. This schedule is necessary for the Engineer to schedule inspection, testing and layout checking for the following day.

The schedule shall include the location and type of all work to be performed that day and all material deliveries. It shall identify all concrete pours, the concrete mix design numbers, and estimated number of cubic yards. The placement of bituminous materials shall be identified, including the mix design numbers, location and number of estimated tons to be placed. The Contractor shall identify all locations where survey verification is required and shall give sufficient advance notification to the Engineer so as not to cause delay.

### Method of Measurement:

This coordination work will not be measured for payment.

### Basis of Payment:

Preparation and submittal of the Contractor's Daily Work Schedule shall not be paid for separately, but shall be included in the cost of the contract items of work.

(District 1 12/08/04)

## **CTA COORDINATION:**

All work to be done by the Contractor on, over or in close proximity of the CTA (Chicago Transit Authority) right-of-way shall be performed in accordance with Article 107.12 of the Standard Specifications and the following additional CTA requirements.

1. The CTA's Representative for this project will be:

Mr. Marvin A. Watson  
General Manager, Construction  
567 W. Lake Street  
P. O. Box 7598  
Chicago, IL 60680-7598  
(312) 681-3860

2. NOTIFICATION TO CTA:

- A. After the letting of the contract and prior to performing any work, the CTA Representative shall be notified by the Department to attend the pre-construction meeting. In this meeting, the Contractor shall confer with the CTA's Representative regarding the CTA's requirements for the protection of CTA utilities clearances, operations, and safety.
- B. Prior to the start of any work on or over the CTA's right-of-way, the Contractor shall meet with the CTA Representative to determine his requirements for flagmen and other necessary items related to the work activities on, over, and

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next to the CTA facilities and to receive CTA's approval for the Contractor's proposed operations.

- C. The Contractor shall notify the CTA Representative 72-hours in advance of the time he intends to enter upon the CTA right-of-way for the performance of any work.

3. PROTECTION OF THE CTA TRAFFIC:

- A. The CTA will be operating mainline trains and performing rail yard operations 24 hours per day, seven days per week during the construction of this project.
- B. The Contractor shall, at all times, take special care to conduct his operations over, under, adjacent to or adjoining the CTA facilities in such a manner as to prevent settlement, damage or displacement to any CTA structures, equipment, tracks or portions thereof and to prevent interruption of train service.
- C. Any damage to the tracks, or other CTA facilities caused by the Contractor's operations, shall be replaced or repaired by the CTA at the Contractor's expense.

4. REIMBURSEMENT OF COSTS:

- A. All Contractors performing work on or near CTA property shall be required to provide a deposit, in advance, equal to the CTA's Construction Department's estimate. This estimated amount equals the anticipated amount of CTA services and includes, but is not limited to, Flagging charges, Inspector charges, and Maintenance charges. No Contractor will be permitted to work prior to submission of a deposit.
- B. If the deposited amount is used up, prior to the completion of the project, the CTA will require an additional deposit to cover the anticipated work remaining. Any money unused at time of project completion will be returned to the Contractor within 30 days.
- C. All checks must be made payable to Chicago Transit Authority and be submitted, with a copy of the estimate, to the CTA Treasury Department, 567 West Lake Street, P.O. Box 7565, 7th Floor, Chicago, IL 60680-7565.
- D. The Department will not be liable for any delays by the CTA in providing flagmen or other services required by this Special Provision.

- 5. Whenever any work, such as temporary shoring and erection procedures for spans over the CTA track, in the opinion of the CTA's inspector, may affect the safety of the trains and the continuity of the CTA's operations, the methods of performing such work shall first be submitted to the CTA for approval. If operations by the Contractor during construction are determined by the CTA's inspector to be hazardous to the CTA's operations, the Contractor shall suspend such work until reasonable remedial measures, and/or alternate methods, satisfactory of the CTA, are taken. Such remedial measures may include obtaining the services of the CTA personnel so that adequate protection may be provided.

6. CTA OPERATING RESTRICTIONS:

Operating requirements of the CTA, while work on this project is in progress, are as follows:

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- A. When the construction work is performed adjacent to an active track and the work does not involve the track or the third rail, the Contractor can provide (and the right-of-way allows for) an uninterrupted physical barrier (fence) at least 6 feet high (above track or platform level) to separate the work area from operating track(s). With the barrier in place, work at track level may be permitted at any time without CTA flagman and Slow Zone protection.
- Such temporary barriers shall be installed as far from the operating track(s) as possible, but no closer than 7'-2" from the centerline of the nearest operating track. The materials, location, construction, and installation of the temporary barrier and the work procedures in the vicinity of the barrier must all be approved 48 hours in advance by the CTA Representative. Any construction work involving a crane lifting material higher than the barrier wall will still require CTA flagging protection.
- B. Work that is adjacent to or over the CTA operating tracks without a barrier in place requires CTA flagmen. Work is to be done during the following hours:
- Monday through Friday – 9:00 a.m. to 3:00 p.m.  
(Based on one slow zone allowed in each direction per line)
  - Monday through Saturday, inclusive - 8:00 p.m. to 4:00 a.m.
  - Sunday - 12:00 a.m. to Monday 4:00 a.m.
- C. Work within the clearance envelope may require a single track operation and hours and length of single track will be determined by CTA rail operations (see paragraph 13 for clearance envelope).
- D. As much work as possible is to be done under normal CTA operating conditions (under traffic) without disruption of train movements.
- E. In order to request a single track (taking one track out of service), the Contractor, through the Resident Engineer, shall notify the CTA Representative forty-two (42) calendar days in advance of the proposed interruption.
- F. Interruptions will be provided solely at the CTA's discretion, depending upon the transit service demands for special events and possible conflicts with prior commitments to other work scheduled on the same route.
- G. No more than one service interruption will be allowed simultaneously on this CTA line.
- H. If the Contractor is unable to return the CTA track to normal operation on time, after the interruption, liquidated damages of at least \$100.00 per minute of delay shall be paid directly to the CTA by the Contractor. Liquidated damages paid by the Contractor will not be reimbursed.
7. Pedestrian traffic to the CTA facilities shall be maintained at all times.
8. A notice of at least seventy-two (72) hours shall be given to the CTA prior to any beam removal or replacement, which will cause interruption to the CTA facilities and service.

9. Simultaneous work on two piers that will require flagmen and affect the train operation shall not be allowed. Work, which will require flagmen, shall be limited to only **one side of the track at a time**.
10. CTA shall have access to all storage tracks and unrestricted train operation over special holidays such as "July 4" and events such as the "Taste of Chicago". Dates for the above and other special holidays and events such as conventions, auto shows, World Series, etc., will be given to the Department as soon as they are available.
11. The Contractor will be required to take all precautions to avoid debris, concrete, and other materials falling over and/or on the tracks.

12. **OTHER SPECIAL CONDITIONS:**

- A. The Contractor shall caution all employees of the presence of electric third rail (600 volts DC), live cables, and moving trains on CTA tracks. The Contractor shall take all necessary precautions to prevent damage to life or property through contact with the electrical or operations systems. The Contractor shall caution all employees that any contact with live electric third rail or "live" portions of train undercarriage may result in a severe burn or death.
- B. The Contractor shall establish third-rail safety precautions in accordance with Authority regulations, such as, using insulating hoods or covers for live third rail or cables adjacent to the work. The Authority will provide CTA-qualified personnel to the Contractor as Contact Personnel. Unless otherwise noted, only CTA personnel are allowed to disconnect power.
- C. Safety Training: All employees of the Contractor or his Subcontractors who are required to work upon or adjacent to the CTA's operating tracks shall be required to attend and provide evidence of completion of a right-of-way safety training course administered by CTA.
- D. Arrangements for the safety training course shall be the Contractor's responsibility. Contact the CTA Representative to arrange for the safety course.
- E. The cost of the course is \$150.00 per person, payable to the CTA prior to taking the course. The cost of this course and the employee's time for the course shall be considered incidental to the cost of the contract. The course is one day long from 8:00 a.m. to 4:00 p.m.
- F. The Contractor his Subcontractors and all of his employees who are required to work on or around the CTA's operating tracks shall wear a CTA type safety vest.

13. **CTA TRANSIT CLEARANCES:**

The Contractor shall perform his work in a manner that provides adequate clearance to the CTA tracks. The clearances shall not be less than the following for safe passage of trains.

7'-2" horizontal to the centerline of the nearest track in yard and right-of-way.

14'-6" vertical from the top of the high running rail.

14. PROTECTIVE SHIELD:

- A. The Contractor shall furnish, install, and later remove a protective shield to protect the CTA traffic from damage due to falling material and objects during construction. The protective shield may be a platform, a net or any other Department approved structure.
  - B. A minimum vertical clearance of 14'-6" above the high running rail of the CTA tracks shall be provided at all times.
  - C. The protective shield and supporting members shall be designed to sustain a load of 200 pounds per square foot in addition to its own weight. Drawings and design calculations for the protective shield shall be stamped by an Illinois Licensed Structural Engineer and shall be submitted to the Department for approval. The protective shield shall be constructed only after the Department has approved the drawings and the design.
15. The contractor shall be required to provide a schedule for material removal, delivery of new material, crane operation over and around the tracks, and a schedule for access of workmen to the construction site.

(CTA 12/9/04)

**BACKFILLING STORM SEWER UNDER ROADWAY**

Effective: September 30, 1985      Revised: July 2, 1994

For storm sewer constructed under the roadway, backfilling methods two and three authorized under the provisions of Article 550.07 will not be allowed.

**CONSTRUCTION AIR QUALITY - DUST CONTROL**

Description. This work shall consist of developing and implementing a detailed Dust Control Plan (DCP). Development of a DCP is required in "Non-attainment" and "Maintenance" areas, per Article 107.36 of the Standard Specifications. All construction activities shall be governed by the DCP. The nature and extent of dust generating activities, and specific control techniques appropriate to specific situations shall be discussed at the pre-construction meeting, with subsequent development of the DCP to include but not be limited to the requirements below.

The Contractor is responsible for the control of dust at all times during the duration of the contract, 24 hours per day, 7 days per week, including non-working hours, weekends, and holidays. This work shall be considered complete after the completion of all permanent erosion control measures required for the contract, and after all temporary and permanent seeding has taken place. Work on this contract shall be conducted in a manner that will not result in generating excessive air borne particulate matter (PM) or nuisance dust conditions.

The DCP shall include legible copies of the product literature and Material Safety Data Sheets for dust suppression agents and stabilizers the contractor proposes to use. The Dust Control Plan shall involve the implementation of control measures before, during and after conducting any dust generating operation. These controls must be in place on non-working days and after working hours, not just while work is being done on the site. The Dust Control Plan must contain information specific to the project site, proposed work, and dust control measures to be implemented. A copy of the Dust Control Plan must be available on the project site at all times.



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Section (1818, ETC, 2324.6-1P)R-9  
Cook County

The Dust Control Plan must contain, at a minimum, all of the following information:

Name, address and phone number of the person(s) responsible for the dust generating operation and for the submittal and implementation of the Dust Control Plan.

A drawing specifying the site boundaries of the project with the areas to be disturbed, the locations of the nearest public roads, and all planned exit and entrance locations to the site from any paved public roadways.

Control measures to be applied to all actual and potential fugitive dust sources before, during and after conducting any dust generating operation, including non-work hours and non-work days.

A list of dust suppressants to be applied, including product specifications, Material Safety Data Sheets, and product label instructions that include the method, frequency and intensity of applications; and information on the environmental impacts and approval or certifications related to the appropriate and safe use for ground applications.

A contingency plan consisting of at least one contingency measure for each activity occurring on the site in case the primary control measure proves inadequate.

The Contractor shall submit two copies of the DCP that outlines in detail the measures to be implemented by the Contractor complying with this section, including prevention, cleanup, and other measures at least 14 days before beginning any dust generating activity. The Contractor shall not begin any dust generating activities until the Engineer approves the DCP in writing. Failure to comply with the DCP or provisions herein will subject the contractor to an "Environmental Deficiency Deduction," as outlined below.

### **Materials**

#### **1. Dust Suppression Agents**

Dust suppression agents shall be water soluble, non-toxic, non-reactive, non-volatile, and non-foaming. The use of petroleum for dust control is prohibited.

Calcium Chloride shall conform to the requirements of Article 1013.01 of the Standard Specifications. Other commercially available dust suppression agents may be substituted for calcium chloride subject to the approval of the Engineer. Material Safety Data Sheets must be reviewed and approved by the Engineer prior to the use of any substances other than Calcium Chloride.

Water shall meet the requirements of Article 1002 of the Standard Specifications.

**2. Soil stabilizers shall consist of seed and mulch meeting the requirements of Article 1081.06 (a) (2) and (3).**

**3. Covers for stockpiles shall be commercially available plastic tarps, or other materials approved by the Engineer.**

Construction Methods. Dust suppression agents shall be used to provide temporary control of dust on haul roads and other active work areas. Several applications per day may be necessary to control dust depending upon meteorological conditions and work activity. The Contractor shall apply dust suppression on a routine basis as necessary or as directed by the Engineer to control dust. Wet suppression consists of the application of water or a wetting agent in solution with water. Wetting agents shall not be applied directly to live plant material. Wet suppression equipment shall consist of sprinkler pipelines, tanks, tank trucks or other devices approved by the Engineer, capable of providing a regulated flow, uniform spray and positive shut off.

Calcium chloride dust suppression agents may be used in lieu of wet suppression only when freezing conditions exist. Calcium chloride shall be uniformly applied by a mechanical spreader at a rate of 1 and 1/2 pounds per square yard or its equivalent liquid, unless otherwise directed by the Engineer. Calcium chloride shall not be directly applied to live plant material.

Calcium chloride must not be stored outdoors without an impermeable cover. Storage must be on an impermeable surface such as paved asphalt or appropriately treated concrete of sufficient thickness to avoid exfiltration. Storage should be as airtight as possible to limit the calcium chloride's absorbing moisture from the air. No storage facilities will be allowed within 100 feet of a storm sewer, or any other drain. Positive drainage must be maintained on all treated surfaces. Ditches, culverts and other structures must be kept clean to ensure proper drainage and to limit the amount of water infiltrating earth surfaces and thereby leeching out chlorides. If calcium chloride is applied dry, or during dry periods, and crystals are seen on the road surface, the road should be wetted sufficiently to dissolve the calcium chloride. Wetting should be limited to an amount that will sufficiently cause the calcium chloride to penetrate the surface but not to the point of causing any runoff from the road surface. Other approved dust suppression agents shall be applied and used as per the manufacturer's instructions.

Haul truck cargo areas shall be securely covered during the transport of materials on public roadways that are prone to cause dust.

Public Roadway Dust Control. Track out, including carryout and spillage of material that adheres to the exterior surfaces of or are spilled from motor vehicles and/or equipment and subsequently fall onto a paved public roadway must be controlled at all times. Clean up of carryout and spillage is required immediately if it extends a cumulative distance of 50 feet or more on a paved public roadway. If the extent of carryout is less than 50 feet, clean up at the end of the day is permissible. Clean up of paved surfaces shall be by wet spray power vacuum street sweeper. Dry power sweeping is prohibited.

Control of earthwork dust. During batch drop operations (i.e. earthwork with a front-end loader, clamshell bucket, or backhoe), the free drop height of excavated or aggregate material shall be reduced to minimum heights as necessary to perform the specified task, and to minimize the generation of dust. To prevent spills during transport, a minimum of 2 inches of freeboard space shall be maintained between the material load and the top of the truck cargo bed rail. A maximum drop height of two feet (or minimum height allowed by equipment) will be allowed, or to heights as directed by the Engineer.

Control of dust on stockpiles and inactive work areas. The Contractor shall use the following methods to control dust and wind erosion of stockpiles and inactive areas of disturbed soil:

Dust suppression agents shall be used during active stockpile load-in, load-out, and maintenance activities.

Soil stabilizers (hydraulic or chemical mulch) shall be applied to the surface of inactive stockpiles and other inactive areas of disturbed soil. Final grading and seeding of inactive areas shall occur immediately after construction activity is completed in an area and as directed by the Engineer.

Plastic tarps may be used on small stockpiles, secured with sandbags or an equivalent method approved by the Engineer, to prevent the cover from being dislodged by the wind. The Contractor shall repair or replace the covers whenever damaged or dislodged at no additional cost.

Method of Measurement. All measuring devices shall be furnished by the Contractor and approved by the Engineer.

Calcium chloride and other approved dust suppression agents shall be mixed with water at the rate specified by the manufacturer and measured for payment in units of 1000 Gallons of solution applied.

The application of soil stabilizers shall be measured by weight (pounds) of soil stabilizer. The soil stabilizer will then be added to water to form a solution in accordance with the manufacturer's recommendation.

All other dust control measures will not be measured for payment.

Basis of Payment. The application of dust suppression agents shall be paid for at the contract unit price per unit for **APPLYING DUST SUPPRESSION AGENT**.

Soil stabilizers will be paid for at the contract price per pound for **SOIL STABILIZERS**.

All other dust control measures will not be paid for directly but shall be considered as included in the various items involved and no additional compensation will be allowed.

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## **CONSTRUCTION AIR QUALITY–DIESEL VEHICLE EMISSIONS CONTROLS**

Description. The reduction of emissions of Carbon Monoxide (CO), Hydrocarbons (HC), Nitrogen oxides (NOx), and Particulate Matter (PM) will be accomplished by installing Retrofit Emission Control Devices and/or by using cleaner burning diesel fuels. The term "equipment" refers to any and all diesel fuel powered devices rated at 50 Horse power (HP) and above, to be used on the project site for any length of time, (including any "rented" or "rental" equipment).

All Contractor and Sub-contractor diesel powered equipment with engine horsepower (HP) ratings of 50 HP and above, that are on the project or are assigned to the contract shall be prohibited from using "off-road" diesel fuel (above 500 parts per million (ppm) sulfur content) at any time. In addition, diesel powered equipment shall be either (1) retrofitted with Emissions Control Devices *and* use Cleaner burning "on-road" diesel fuel (500 ppm sulfur content or less), or (2) use Ultra Low Sulfur Diesel fuel (ULSD) exclusively (15 ppm sulfur content or less), in order to reduce diesel particulate matter emissions. Large cranes (Sky cranes or Link Belt cranes), which are responsible for critical lift operations are exempt from installing Retrofit Emission Control Devices if they adversely affect equipment operation.

In addition, all construction motor vehicles (both on-road and off-road, gasoline or diesel fuel powered) shall comply with all pertinent State and Federal regulations relative to exhaust emission controls and safety, including opacity. Frequently Asked Questions (FAQ's) regarding Illinois Environmental Protection Agency (IEPA) emissions testing for gasoline powered vehicles can be accessed at ([www.epa.state.il.us/air/vim/faq/testing.html](http://www.epa.state.il.us/air/vim/faq/testing.html)). Regulations regarding diesel powered vehicles over 16,000 pounds, and the Diesel Emission Inspection Program (Title 92: Transportation Part 460, Diesel Emission Inspection Program, Subpart A: General) can be accessed at ([www.dot.state.il.us/regulations.html](http://www.dot.state.il.us/regulations.html)). Diesel powered vehicles less than 16,000 pounds are exempt from testing by IDOT. All diesel powered equipment used on the project site shall be subject to reasonable, random spot checks for compliance with the required emissions controls and proper diesel fuel usage. The Secretary of State, Illinois State Police and other law enforcement officers shall enforce Part 460. For additional information concerning Illinois diesel emission inspection requirements, please call the Illinois Department of Transportation, Diesel Emission Inspections Unit, at 217-557-6081.

The Retrofit Emission Control Devices shall consist of oxidation catalysts, or similar retrofit equipment control technology that (1) is included on the Environmental Protection Agency (EPA) *Verified Retrofit Technology List* ([www.epa.gov/otaq/retrofit/retroverifiedlist.html](http://www.epa.gov/otaq/retrofit/retroverifiedlist.html)) and (2) is verified by EPA or certified by the manufacturer via letter, to provide a minimum emissions reduction of 20% PM10, 40% CO, and 50% HC when used with "on-road" diesel fuel. As noted above, the Retrofit Emission Control Device *must be used with on-road diesel fuel* (500 ppm sulfur content or less).

If used, ULSD fuel shall conform to American Society for Testing and Materials (ASTM) D-975 diesel with the following additional specifications:

- ASTM D-5453 15 ppm Sulfur max.
- ASTM D-6078 Lubricity (SBOCLE) 3100 g min.
- ASTM D-613 Cetane 45 min.
- Dyed (for Off-road use)

Construction shall not proceed until the contractor submits a certified list of the diesel powered equipment that will be retrofitted with emission control devices and use "on-road" diesel fuel, and a list of equipment that will use ULSD fuel only. The list(s) shall include (1) the equipment number, type, make, and contractor/sub-contractor name; (2) the emission control devices make, model and EPA verification number; and (3) the type and source of clean fuels to be used. Vehicles reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation by qualified staff, prior to being used on the project site. 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 under "Environmental Deficiency Deduction."

The contractor shall submit monthly summary reports, updating the list of construction equipment, and include certified copies of the diesel fuel delivery slips (for both "on-road" and ULSD) for the reporting time period, noting the type of diesel fuel used with each piece of diesel powered equipment. The addition or deletion of any diesel powered equipment shall be included in the summary and noted on the monthly report.

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 given 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. Failure to comply with the "Diesel Vehicle Emission Controls", shall also subject the Contractor or sub-contractor to an "Environmental Deficiency Deduction," as outlined below.

Any costs associated with bringing any diesel powered equipment into compliance with these "Diesel Vehicle Emissions Controls" shall be included in the overall cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall also not be grounds for a claim.

A. IDLING. The contractor shall establish truck-staging areas for all diesel powered vehicles that are waiting to load or unload material at the contract area. Such zones shall be located where the diesel emissions from the equipment will have a minimum impact on adjacent abutters and sensitive receptors of the general public. The Department will coordinate such locations with the Contractor and City Of Chicago authorities, including local aldermen, in the selection of staging areas, whether within or outside the existing highway right-of-way (ROW), 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. Idling of diesel powered equipment shall not be permitted during periods of non-active vehicle use. Diesel powered engines shall not be allowed to idle for more than five consecutive minutes when the equipment is not in use, occupied by an operator, or otherwise in motion, except only as follows:

When the equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;

When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;

To bring the equipment to the manufacturer's recommended operating temperature;

When the outdoor temperature is below forty-five (45) degrees Fahrenheit or above eighty (80) degrees Fahrenheit;

When the equipment is being repaired.

All work shall be conducted to ensure that no harmful effects are caused to adjacent sensitive receptors. Equipment and equipment operators found in non-compliance with these idling provisions shall receive a warning, and on the next offense be subject to an Environmental Deficiency Deduction as outlined below. The contractor or sub-contractor may reserve the right to enforce this deduction on their own equipment operator, as necessary.

B. MITIGATION. Air quality monitoring will be conducted throughout the course of the Dan Ryan reconstruction project, by a separate air quality consultant. The contractor shall designate a point person to be responsive to IDOT in the event construction related air quality issues arise. If the ongoing monitoring detects an adverse air quality issue that is due to, or exacerbated by construction activities, the contractors point person will be required to consult with the Engineer, to determine the appropriate course of action.

Appropriate mitigation measures can include a variety of actions ranging from, but not limited to additional watering, removal of construction equipment from nearby sensitive receptors, shut down of diesel powered equipment, or other mitigation measures which may be required as data becomes available and as approved by the Engineer.

**Method of Measurement and Basis of Payment:**

The **CONSTRUCTION AIR QUALITY – DIESEL EMISSIONS CONTROLS** will not be measured for payment and the cost of this work shall be included in the unit prices bid and no additional compensation will be allowed.

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**CONSTRUCTION NOISE MITIGATION**

Description. This work shall consist of implementing construction noise restrictions as outlined in a project Construction Noise Mitigation plan. Work on the project shall be in accordance with the Construction Noise Mitigation plan submitted by the contractor, applicable sections of Article 107.35 of the Standard Specifications, and modifications as contained herein for construction noise.

The contractor must provide advance notification, and secure approval from the Engineer prior to the use of heavy construction equipment outside normal construction work hours ("normal construction work hours" as specified in Article 107.35 of the Standard Specifications). Inspection and maintenance of all vehicle exhaust systems shall be conducted on a monthly basis, (or as determined by the Engineer), for all such vehicles and other equipment assigned to or utilized on the project site. Inspections shall be conducted by personnel having a working knowledge of exhaust systems so that proper recommendations regarding the adequacy of the mufflers can be established.

**Construction Equipment**

Pavement Breakers create high concentrations of low frequency sound energy, and noise attenuation can be achieved through the introduction of high-mass material between the noise source and the receiver. The attachment of shrouds (sound curtains) to the steel frame around the breaker shall be installed, as equipment allows. The operation of pavement breakers shall be prohibited outside of normal work hours, as specified herein, unless otherwise approved by the Engineer.

Special care shall be taken with respect to the set up and operation of concrete batch and concrete crushing plants to minimize the potential noise impacts to the adjacent community. The Department will work with the Contractor and City Of Chicago authorities, including local aldermen in selecting construction concrete batch and/or crushing locations, whether within or outside the ROW, to avoid locations near sensitive areas or populations to the extent possible. All local, City, Village, Town and/or Township rules, regulations, and/or requirements regarding batch and crushing plants shall be followed, as instructed by the Engineer.

Compressors or generators shall be located as far away as possible from sensitive receptors. Compressors and generators shall be positioned such that the cooling fan intake does not point towards the community. The Contractor shall review stationary equipment placement with the Engineer prior to commencement of work.

**Method of Measurement and Basis of Payment:**

The **CONSTRUCTION NOISE MITIGATION** will not be measured for payment and the cost of this work shall be included in the unit prices bid and no additional compensation will be allowed.

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**ENVIRONMENTAL DEFICIENCY DEDUCTION**

To ensure a prompt response to incidents involving the integrity of work zone Environmental (Air Quality and Noise) Control, the Contractor shall provide a telephone number where a responsible individual can be contacted on a 24 hour a day basis.

When the Engineer is notified, or determines 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 frame. The specified time frame, 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.

The deficiency may include lack of repair, maintenance or non-compliance with the Special Provisions for Construction Air Quality Dust Control and/or Construction Noise Mitigation.

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 exists. The calendar day(s) will begin with Contractor's notification and end with the Engineer's acceptance of the correction. The daily monetary deduction will be either \$1,000.00 or 0.05 percent of the awarded contract value, whichever is greater.

In addition, if the Contractor or sub-contractor fails to respond within the allotted time frame, the Engineer may take action to correct the deficiency, or may cause the correction of the deficiency to be made by others, the cost thereof being deducted from monies due or which may become due the Contractor or sub-contractor. This corrective action will in no way relieve the Contractor or sub-contractor of his/her contractual requirements or responsibilities, and shall not be grounds for any claim.

If a Contractor or sub-contractor accumulates three (3) Deficiency Deductions for the same deficiency, in a contract period, the contractor will be shut down until the deficiency is corrected. Such a shut down will not be grounds for any extension of the completion date, waiver of penalties, or be grounds for any claim.

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**CONTRACTOR OFF-STREET PARKING RESTRICTION**

The Contractor and all employees working on this project will not be allowed to park their vehicles and equipment on frontage roads or streets. The Contractor shall provide off-street parking facility for all vehicles and equipment. The Contractor shall also provide any transportation required to get his employees to and from the work site. The Contractor will provide the Resident Engineer with written documentation of the off-site parking location



The cost to comply with this requirement will not be paid for separately, but shall be considered as included in the contract unit bid prices of the contract, and no additional compensation will be allowed.

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### **ADVANCED PUBLIC NOTIFICATION**

Description.

This work shall consist of furnishing, installing, maintaining, relocating for various stages of construction, and eventually removing the advanced signing.

General.

The Contractor shall provide notice to the public a minimum of 14 days in advance of any work that requires the closure of lanes or ramps through the use of a changeable message sign or temporary information signing.

Basis of Payment.

This work will be paid as CHANGEABLE MESSAGE SIGNS in calendar months or TEMPORARY INFORMATION SIGN in sq. ft.

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### **PRE-CONSTRUCTION VIDEO LOG**

In addition to requirements in Article 107.20 of the standard specification, the Contractor shall prepare photo/video log of all structures adjacent to the Frontage Road right-of-way within the project limit prior to start of any construction work. The Contractor shall provide copy to the Engineer. Also the Contractor shall prepare and furnish photo/video log of final condition.

The cost to comply with this requirement will not be paid for separately, but shall be considered as included in the contract unit bid prices of the contract, and no additional compensation will be allowed.

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### **CONCRETE STRUCTURES**

Revise Article 503.02 to include the following:

The coarse aggregate to be used in the concrete for the retaining wall stems shall conform to the requirements for the coarse aggregate that is used for superstructure concrete.

### **VIDEO TAPING OF SEWERS, MAIN DRAIN, AND MWRD CULVERT**

Description This Work shall consist of sewer inspection by videotaping of the combined sewers, the Dan Ryan Main Drain, and the MWRD Culvert, as shown on the Plans or directed by the Engineer.

Videotaping and Inspection Requirements

a). Existing Conditions

It shall be the Contractor's responsibility to inspect the sewer prior to the start of televising and to inform the Engineer of any structural deficiencies in the sewer, which may hinder or impede the televising of the sewer.

The construction materials of the sewers to be televised may be brick, cast-in-place concrete, pre-cast reinforced concrete pipe, clay tile pipe, ductile iron pipe and thermoset plastic pipe.

All and any damage caused by operations or operatives connected with this Contract shall be the responsibility of the Contractor.

The Contractor may be required to perform light cleaning prior to or during televising operations. All costs to the Contractor resulting from the provision shall be incidental to the price bid.

Light cleaning shall be defined as a sewer or manhole with an accumulation of debris/dirt less than or equal to 20 percent of the pipe diameter.

b) Acceptance of Televised Main Sewers:

The Department retains the right to determine the acceptance or rejection of all work according to the terms of these Special Provisions. In the event of rejection of completed work, corrective action is to be initiated within 48 hours of notice of rejection.

c) Disposal of Material Removed:

All solids or semi-solids accruing due to the televising and/or cleaning operations shall be removed from the site by the Contractor on a daily basis, and disposed of in accordance with Section 202.03 of the Standard Specifications.

Under no circumstances will the Contractor be permitted to deposit or accumulate debris within any sewer or on the work site.

No debris or dump boxes shall remain on the right-of-way during non-working hours, unless prior written approval is given by the Engineer.

d) Protection of Sewers During Operations:

Satisfactory precautions shall be taken to protect the main sewers and sewer manholes from damage that might be inflicted by the improper use of televising and/or cleaning equipment. Whenever hydraulically propelled equipment or any tools which retard the flow of water in the main sewers are used, precautions shall be taken to ensure that the water pressure created does not cause damage or flooding to any public or private property.

The Contractor shall be responsible for all damage to public and private property as a result of all televising and/or cleaning operations. Costs of restoration of any damaged area to at least its condition prior to damage shall be incidental to this Contract.

The Contractor's attention is drawn to the fact that existing flows in the sewers could flood the work under this Contract, especially in the event of heavy rainfall. He shall be prepared at all times to safeguard workers and protect the work under this Contract from damage by flooding. The Contractor shall maintain flow at all times in the existing sewers.

The Contractor shall take all necessary precautions to insure that the water pressure created by diverting or retarding flow in the sewer does not cause any damage or flooding to any property.

e) General Requirements:

Arrangements shall be made by the Contractor for videotaping in conformance with the following:

The video operator must have at least one (1) year of experience in televising sewer mains, manholes and lateral connections.

The entire televised inspection must be carried out in the presence of the Department's representative.

Videotapes shall be high quality color in VHS or DVD format and recorded in either SP or LP modes. Recordings made in SLP or EP modes are not acceptable. Any out-of-focus video recordings, or video recordings that exhibit poor visibility due to foggy atmospheric conditions or poor lighting, or portions thereof, shall be cause for rejection of the video recording and will necessitate re-televising at the Contractor's expense.

The Contractor shall turn over the original VHS videotape or DVD to the Engineer immediately after taping with the tab removed so as to prevent accidental erasure.

Televising shall be done one section at a time, each section isolated from the remainder of the sewer line as required. Sufficient water shall be supplied to cause drainage within the isolated section prior to televising.

The Contractor shall not be entitled to any additional working days due to delays in securing the video taping services of a private vendor.

f) Equipment for Televising:

Televising equipment shall include the color television camera, television monitor, cables, power source, lights and other equipment necessary to the televising operation. The camera, television monitor and components of the video system shall be capable of producing a minimum 350-line resolution color video picture.

The camera shall be specifically designed and constructed for sewer inspection. The camera shall have a high-resolution lens, and shall be operative in 100 percent humidity. The camera shall be capable of spanning 360-degrees on the vertical axis and 270-degrees on the horizontal axis, so that all service connections can be properly inspected. Focal distance shall be adjustable through a range of from 1-inch to infinity. The camera shall be mounted on skids suitably sized for each pipe diameter to be investigated.

Lighting for the camera shall minimize reflective glare. Camera and lighting quality shall be sufficient to provide a clear, continuously in-focus picture of the entire inside periphery of the sewer pipe for all conditions encountered during the work.

The remote reading footage counter shall be accurate to 0.20 feet over the length of the particular section being inspected and shall be mounted over the television monitor.

g) Televising Procedures by Contractor:

The camera shall be capable of movement through the sewer line in either direction at a uniform rate, stopping where necessary to ensure proper documentation of the condition of the sewer line. In no case shall the camera be moved at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, powered rewinds or any other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions may be used to move the camera through the sewer line.

The Contractor shall select an appropriate method of propelling the camera based on the existing conditions of each assignment. If the selected method of propelling the camera through the sewer is incapable of doing so, the Contractor shall be obligated to try another method where appropriate, as determined by the Engineer.

If during the televising operations, the camera will not pass through an entire sewer section, the Contractor shall reset his equipment in a manner such that the inspection can continue on the opposite side of the obstruction in the opposite direction, i.e. a reverse set-up. The movement shall be in a direction such that the obstruction can be televised.

When conditions exist making it impossible to televise the sewer, the Contractor shall lamp the line, as determined by the Engineer.

It shall be the Contractor's responsibility to locate all live and dead drains and lateral sewers connected to the section being televised.

All sewer and lateral connections, manhole risers, missing bricks, voids and dark areas are to be televised. The camera shall be held in the viewing position long enough to allow proper evaluation of each location.

Whenever non-remote powered and controlled winches are used to pull the television camera through the line, telephones, radios, or other suitable means of communications shall be set up between the manholes of the section being inspected to ensure that adequate communication exists between members of the crew.

Where necessary, a high-pressure water jet spray may be utilized downstream of the camera. The spray shall be equally spread out within the sewer to define the contour shape of the sewer.

Should the camera go underwater, the Contractor shall adjust the camera height and re-televise the affected portion of the sewer.

Distance measurement of the camera in the sewer line is critical. Measurement for location of defects shall be above ground by means of a meter device. Markings on the cable, or similar, which would require interpolation for depth of manhole will not be acceptable.

The accuracy of measurement meters shall be checked daily by use of a walking meter, roll-a-tape, or other suitable device. Footage measurements shall begin at the centerline of the upstream manhole, unless permission is given by the Engineer to do otherwise. Footage shall be shown on the video data view at all times.

h) Depth of Debris/Dirt and Water:

The Contractor shall measure and record the depth of debris/dirt and water in each manhole.

l) Documentation of Televising by Contractor:

Audio and written documentation shall accompany all video tapes submitted to the Engineer.

The voice recording on the video tapes shall make brief but informative comments on data of significance, including, but not limited to, the locations of unusual conditions, connections, collapsed sections, the presence of scale, root intrusion, corrosion and other discernible features.

Manholes are to be cross-referenced to a house address or property line.

If the camera is stopped for more than one (1) minute the Contractor is to address the reason for the delay on the videotape.

The videotape (s) shall include the following:

1. Data View:
  - a. Report number.
  - b. Date and time of inspection.
  - c. Upstream and downstream manholes or station numbers.
  - d. Current distance along reach (tape counter footage).
  - e. Weather conditions.
  - f. Depth of debris/dirt and water in manholes.
  - g. Contractor's name.
  - h. Printed labels on tape container and tape cartridge with location information, date, format, and other descriptive information.
  
2. Written Report:
  - a. Same requirements as above in 1. Data View.
  - b. Location of unusual conditions.
  - c. Location and clock position of sewer and lateral connections.
  - d. Location of structural defects.
  - e. Location of above ground catch basins.
  - f. Location of damaged or missing frames and lids.
  - g. Location of areas requiring repair such as, but not limited to, collapsed sewers, manholes and catch basins. Voids in the pavement in close proximity to the main sewer and/or catch basin.
  - h. All locations are to be cross-referenced to a house address or property line.

All costs to the Contractor resulting from the above provisions shall be incidental to the prices bid for the various sewers.

k) Cleaning of Sewers:

The equipment selected for cleaning shall be capable of removing all dirt, grease, rock and any other deleterious material from the main sewers and manholes.

When a sewer designated for televising is found to be more than one-half full with debris, bucket machines, rodding machines and/or vacuum equipment shall be used to remove the major portion of material before hydraulic equipment is employed.

Cleaning work may be executed by hand at the discretion of the Engineer.

l) Records – Daily Work Report:

During the televising operations, a daily work report shall be kept on a form to be supplied to the Department. Such form shall include the following:

Date and weather.

Identification of the main sewer section.

Location of each manhole, catch basin and lateral connection.

Condition of the main sewer.

Frames and lids that are damaged or missing.

Location of areas requiring repair such as, but not limited to, collapsed sewers, manholes and catch basins and voids in the pavement in close proximity to the main sewer and/or catch basins.

m) Surface Restoration:

Surface restoration of any areas damaged during the execution of any work under this Contract shall be made to return such areas to a condition equal to or better than the original condition at the sole expense of the Contractor. Any expense for surface restoration shall be incidental to the Contract.

Time of Work. The M RD culvert will have a taped video inspection twice. Once prior to start of any work within 200 feet of the MWRD culvert and once after the completion of all construction activities as directed by the Engineer.

Confined Space Entry. The Contractor shall be responsible for the application of a Confined Space Permit from the:

Metropolitan Water Reclamation District of Greater Chicago  
100 East Erie St.  
Chicago, IL 60611-2803  
(312) 751-5600

Coordination. Coordination of the proposed work scheduling for the Video Taping of MWRD Culvert shall be done with Mr. Stephen Laflame of the Metropolitan Water Reclamation District of Greater Chicago at (708) 588-4080 and with Ms. Sarah Wilson of the Illinois Department of Transportation at (847) 705-4170 at least 72 hours prior to starting the videotaping activity.

Method of Measurement. VIDEO TAPING OF SEWERS, VIDEO TAPING OF MAIN DRAIN, and VIDEO TAPING OF MWRD CULVERT will be measured for payment in feet. The length of measurement for the MWRD Culvert shall be from the centerline of the Dan Ryan Expressway to the manhole along the frontage road adjacent to the side under construction. The length shall be measured once regardless of the number of times the culvert is actually video taped as specified herein. The Contractor for the opposite side of Expressway is responsible for the remaining portion of the culvert.

The VIDEO TAPING OF SEWERS, applies to the existing combined sewers; VIDEO TAPING OF MAIN DRAIN applies to the Dan Ryan Main Drain; and VIDEO TAPING OF MWRD CULVERT applies to the MWRD Culvert North of 39<sup>th</sup> Street.

Basis of Payment: This work will be paid for at the contract unit price per foot for VIDEO TAPING OF SEWERS; VIDEO TAPING OF MAIN DRAIN; and VIDEO TAPING OF MWRD CULVERT, which price shall include all coordination with adjacent contractors and agencies, permitting, equipment, materials and labor to complete the work as specified herein.

(BBA 06/27/05)

### **CLASS C PATCHES**

Description: This work consists of the removal of the existing pavement, the necessary excavation and the replacement with the class C patches of the type specified at the locations shown in the plans or as directed by the Engineer in accordance with applicable portions of Section 442 of the Standard Specifications.

The thickness of the patches is as shown on the plans or to match the existing pavement depth as directed by the Engineer..

Method of Measurement: CLASS C PATCHES will be measured in place per each and the area computed in square yards.

Basis of Payment: This work shall be paid for at the contract unit price per square yards for CLASS C PATCHES of the type specified which price is payment in full for all labor, tools, equipment and materials necessary to complete this work.

(EK 6/08/05)

### **CONCRETE BARRIER REMOVAL**

Description: This work consists of the removal and satisfactory disposal of the existing concrete barrier and barrier base at the locations shown on the plans or as directed by the Engineer. This work shall be performed in accordance with the applicable portions of Sections 202 and 501 of the Standard Specifications, the details in the plans and as herein specified.

Construction Requirements: Concrete barrier removal shall be in accordance with the applicable portions of Article 440 and 501 of the Standard Specifications. A typical detail of the existing wall is provided in the plans.

The portion to be removed shall be disposed of in accordance with Article 202.03.

Method of Measurement: Concrete barrier removal shall be measured in linear feet along the top of the barrier.

Basis of Payment: This work shall be paid for at the contract unit price per foot, for CONCRETE BARRIER REMOVAL which price shall be payment in full for all labor, tools, equipment and materials necessary to remove and dispose of the concrete barrier as specified herein.

(EK 06/21/05)

### **CTA BARRIER REMOVAL**

Description: This work consists of the removal and satisfactory disposal of the existing concrete barrier, barrier base, and fence and any gates atop the wall adjacent to the CTA operating area at the locations shown on the plans or as directed by the Engineer. Also included is the removal of any existing curb and gutter adjacent to the existing barrier on the CTA operating area side.

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This work is to be performed in accordance with the applicable portions of Sections 202, 440 and 501 of the Standard Specifications, the details in the plans and as herein specified.



Method of Measurement: CTA Barrier Removal will be measured in feet in place, along the centerline of the barrier to be removed.

Basis of Payment: This work will be paid for at the contract unit price per foot for CTA BARRIER REMOVAL which price includes payment in full for all labor, tools, equipment, and materials necessary to remove and dispose of the concrete barrier as specified herein.

(EK 06/21/05)

## **PIPE UNDERDRAINS FOR STRUCTURES**

Effective: May 17, 2000

Revised: July 18, 2003

Description. This work shall consist of furnishing and installing the perforated drain pipe, geotechnical fabric and/ or impervious geomembrane, and coarse aggregate as shown on the plans, as specified herein, and as directed by the Engineer.

Materials. Materials shall meet the requirements as set forth below:

Pipe underdrains shall consist of perforated drain pipe in accordance with Article 601.02 of the Standard Specifications. Outlet pipes shall not be perforated.

The coarse aggregate shall have a gradation of CA5 or CA7 in accordance with Section 1004 of the Standard Specifications.

The fabric surrounding the coarse aggregate shall consist of Geotechnical Fabric for French Drains in accordance with Article 1080.05 of the Standard Specifications.

The impervious geomembrane surrounding the coarse aggregate shall be a minimum 20 mil in thickness and shall be manufactured from polypropylene, polyethylene, or polyvinyl chloride material.

Construction Requirements. All work shall be in accordance with the applicable requirements of Section 601 of the Standard Specifications except as modified below.

The pipe underdrains shall be installed to the lines and gradients as shown on the plans. The drain pipe shall be situated within an area of coarse aggregate as shown on the plans. The coarse aggregate shall be wrapped completely in geotechnical fabric and/or impervious geomembrane as shown on the plans.

Method of Measurement. Pipe underdrains for structures shall be measured for payment in meters (feet), 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.

Basis of Payment. This work will be paid for at the contract unit price per meter (foot) for PIPE UNDERDRAINS FOR STRUCTURES of the diameter specified, installed and measured as specified herein. Furnishing and installation of the coarse aggregate, geotechnical fabric, impervious geomembrane, 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.

**CONCRETE MEDIAN SURFACE, 6" (SPECIAL)**

Description: This work shall consist of coloring, patterning, sealing, and placing concrete median surface at locations shown in the plans or as directed by the Engineer. This work will be in accordance with the applicable sections of Section 606 of the Standard Specification, except modified herein. This work is specialized concrete finishing work requiring experienced concrete finishers.

The concrete median surface shall be integrally colored brick red, patterned, and sealed in accordance with the following:

Materials. Materials for the concrete median surface shall meet the following requirements.

a) **Integrally Colored Concrete.** Integrally colored concrete shall be according to Section 1020 of the Standard Specification for Class SI concrete except as follows.

Article 1020.04 The allowable water/cement ratio range shall be 0.40 minimum to 0.44 maximum.

Article 1020.04 The allowable slump range shall be 75 mm (3 in.) minimum to 125 mm (5 in.) maximum.

Article 1020.04 The allowable coarse aggregate gradations shall be CA 11, CA 13, CA 14, and CA 16.

Article 1020.05(b) A calcium chloride accelerating admixture shall not be used.

Article 1020.05(b) The cement factor shall not be reduced if a water-reducing or high range water-reducing admixture is used.

Article 1020.05(c) Fly ash shall not be used.

Article 1020.05(k) Ground granulated blast-furnace slag shall not be used.

Article 1020.11 Pigment for integrally colored concrete shall be added to the concrete and mixed per the Manufacturer's recommendation.

Article 1020.13 The curing method shall be Type I membrane curing.

Article 1020.13. The protection method shall be according to Article 1020.13(e)(1) and the protection period shall be 96 hours. No material, including the insulating material, shall be placed in direct contact with the concrete surface.

(b) **Pigment for Integrally Colored Concrete.** The pigment shall meet the requirements of ASTM C 979, match color number 30166 of Federal Standard 595, and be on the Department's Approved List of Pigments for Integrally Colored Concrete. The color shall meet the approval of the District One Landscape Architect, Rick Wanner (847-705-4171) prior to ordering.

(c) **Release Agent for Concrete Stamping Tools.** The release agent shall be according to the stamping tool manufacturer's recommendations and shall be a medium gray liquid that will evaporate. It shall not harm the concrete, and it shall allow the application of Type I membrane curing. The releasing agent shall meet the approval of the District One Landscape Architect, Rick Wanner (847-705-4171) prior to ordering

Patterning for the Concrete Median Surface 6" (Special) shall be stamped into the concrete median surface. The texture shall be applied in a running bond brick pattern in a direction perpendicular to the mainline travel lanes. The size of the bricks used in the pattern shall be approximately 4" wide by 8" long (+/-1/2). The brick pattern shall be approved by the District One Landscape Architect, Rick Wanner (847-705-4171) prior to ordering. Application shall be done in accordance to the manufacturer's recommendations.

(e) The tamper shall be according to the manufacturer's recommendations for the brick pattern being used.

Sealer. A lacquer base acrylic sealer shall be applied to the surface with three (3) light even coats of a premium stain resistant waterbase. Application shall be done in accordance to the manufacturer's recommendations.

### CONSTRUCTION REQUIREMENTS

Stamping. The concrete shall be placed and finished according to Article 424.06 except the area to be stamped shall not be brushed. When the bleed water has been absorbed, stamping shall begin. The entire width of the concrete median surface shall be stamped at the same time. A single stamp or a combination of stamps may be used.

Prior to placing the stamp on the concrete, the stamp shall be coated with the release agent. When recommended by the manufacturer, the release agent shall also be applied to the concrete surface. Once the stamp has been placed on the concrete median surface, it shall remain down until the stamping is complete.

The entire area of the stamp shall be tamped with a short, slow, repetitive action such that the depth of the stamped area between the bricks shall be 1/2 inch to 5/8 inch. The surface of the concrete pattern shall be high enough so that water will drain out of the groves between the brick patterns. Stepping or walking on the stamp will not be allowed.

When stamping is complete, the stamp shall be removed and the concrete cured.

Method of Measurement: Concrete median surface, 6" (Special) will be measured for payment in place, and the area computed in square feet.

Basis of Payment: This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN SURFACE, 6" (SPECIAL).

(District 1 01/15/04)

### CONCRETE BARRIER

Revised Section 637 of the Standard Specifications to read:

#### **"SECTION 637. CONCRETE BARRIER"**

**637.01 Description.** This work shall consist of constructing a concrete barrier and its base.

**637.02 Materials.** Materials for concrete barrier and concrete base shall conform to the requirements of the following Articles of Section 1000 – Materials: Except as follows add the following to the coarse aggregate gradation Table of Standard Specification.

In the coarse Aggregate Gradation table of Article 1004.01 ( c ) of the Standard Specifications revise the percent passing the 12.5 mm (1/2 inched) sieve for CA7 to a minimum of 45% and CA11 to a minimum of 45%.

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The contractor may combine two or more similar types of coarse Aggregate sizes consisting of DM7, CM11, CM13, CM14, CM16, provided a CM7 or CM11 is included in the blend.

The coarse Aggregate used to produce the concrete barrier and base if pour monolithically with the barrier, conform to the superstructure requirements concerning deleterious materials or substances whose disintegration is accompanied by an increase in volume which may cause spalling of the concrete.

<b>Item</b>	<b>Article/Section</b>
a) Portland Cement Concrete	1020
b) Tie Bars (Note 1)	1006.10 (a) (b)
c) Dowel Bars	1006.11 (b)
d) Protective Coat	1023
e) Non-Shrink Grout	1024
f) Chemical Adhesive	1027
g) Preformed Expansion Joint Filler	1051.01 – 1051.08

Note 1. Tie bars shall be Grade 400 (Grade 60).

Materials for bituminous concrete base shall conform to the requirements to Article 356.02.

**637.03 Equipment.** Equipment for concrete barrier shall conform to the requirements of the following Articles of Section 1100 – Equipment.

<b>Item</b>	<b>Article/Section</b>
a) Hand vibrator	1103.17 (a)
b) 3 m (10 ft) Straightedge	1103.17 (h)

Equipment for Portland cement concrete base shall conform to the requirements of Article 483.03.

Equipment for bituminous concrete base shall conform to the requirements of Article 356.03

### **CONSTRUCTION REQUIREMENTS**

**637.04 Barrier Base.** The base may be constructed separately or poured monolithically with the barrier. When constructed separately, Portland cement concrete base shall be constructed according to Article 483.04 – 483.06, except the surface shall be finished according to Article 503.09 (a). Bituminous concrete base shall be constructed according to Articles 356.05 and 356.06.

**637.05 Anchoring.** Barrier shall be anchored to the base by the methods shown on the plans. When tie bars are used, they shall be installed in preformed or drilled holes with a non-shrink grout or chemical adhesive.

**637.06 Barrier Construction.** Concrete barrier shall be constructed according to the applicable portions of Articles 503.06 and 503.07. Where the horizontal alignment of the concrete barrier is curved, the barrier shall be constructed either on the curved alignment or on cords not more than 3m (10 ft) in length.

When slipformed, the vertical centerline of the barrier shall not vary from the proposed centerline by more than 75 mm (3 in.) nor by more than 13 mm in 3 m (1/2 in. in 10 ft). All surfaces shall be checked with a 3 m (10 ft) straightedge as the concrete exits the slipform mold. Surface irregularities greater than 10 mm in 3 m (3/8 in. in 10 ft) shall be corrected immediately. Continued variations in the barrier surface exceeding 6 mm in 3 m (1/4 in. in 10 ft) will not be permitted and remedial action shall immediately be taken to correct the problem. Any deformations or bulges remaining after the initial set shall be removed by grinding after the concrete has hardened. All holes and honeycombs shall be patched immediately.

**637.07 Barrier Transitions.** Transitions between barriers of different design shall be constructed according to the details shown on the plans.

**637.08 Joints.** Joints shall be constructed as shown on the plans and as follows:

- a) Construction Joints. Construction joints shall be constructed in the barrier whenever there is an interruption in the pour of more than 30 minutes.
- b) Expansion Joints. Expansion joints shall be constructed in the barrier and the base in line with expansion joints in the adjacent pavement or shoulder. Expansion joints shall also be constructed at locations where the barrier abuts a rigid structure.

Prior to placing concrete, a light coating of oil shall be uniformly applied to the dowel bars.

- c) Contraction Joints. Contraction joints shall be constructed in the barrier at uniform intervals with a maximum spacing of 6 m (20 ft) or in line with contraction joints in the adjacent pavement or shoulder. Contraction joints shall be formed by a groove 3 mm (1/8 in.) wide by 50 mm (2 in.) deep either formed in the plastic concrete or sawed after the concrete has set.

**637.09 Finishing.** The surface of concrete barrier shall be finished according to Article 503.16 (a).

**637.10 Protective Coat.** When required, the top and vertical surfaces of the barrier exposed to traffic shall receive a protective coat. The application of the protective coat shall be according to Article 420.21.

**637.11 Method of Measurement.** This work will be measured as follows:

- a) Contract Quantities. The requirements for the use of contract quantities shall be according to Article 202.07 (a).
- b) Measured Quantities. New barrier base, both separate and monolithic, will be measured for payment in meters (feet) in place, along the centerline of the base or barrier. The width of the base will be defined as the width of the barrier.

Concrete barrier will be measured for payment in meters (feet) in place, along the centerline of the barrier.

Barrier transitions will be measured for payment in meters (feet) in place, along the centerline of the transition.

Protective coat will be measured for payment according to Article 420.22 (b).

**637.12 Basis of Payment.** This work will be paid for at the contract unit price per meter (foot) for BARRIER BASE; CONCRETE BARRIER, DOUBLE FACE, of the height specified; CONCRETE BARRIER, SINGLE FACE, of the height specified; CONCRETE BARRIER, SINGLE FACE (SPECIAL), of the height specified; BARRIER BASE; and CONCRETE BARRIER TRANSITION.

The length of barrier detailed as "Variable End Section" shown on the State Highway Standard 637001, will be paid for at the contract unit price per foot for CONCRETE BARRIER, DOUBLE FACE, 32 INCH HEIGHT.

Protective coat will be paid for according to Article 420.23."

(BBA 6/27/05)

### **IMPACT ATTENUATOR REMOVAL**

Description This work consists of removing existing impact attenuators.

Removal When the Engineer determines existing impact attenuator systems are no longer required, the installation must be dismantled with all hardware becoming the property of the Contractor.

Surplus material must be disposed of according to Article 202.03. Anti-freeze, when present, must be disposed of/recycled according to local ordinances.

When impact attenuators have been anchored to the pavement in locations where traffic will be traversing, the anchor holes must be repaired with rapid set mortar. Only enough water to permit placement and consolidation by rodding will be used and the material must 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 ATTENUATOR REMOVAL.

### **CTA FENCE AND GATES**

Description: This work consists of fabricating and erecting the CTA Fence and CTA FENCE GATES at the locations shown in the contract plans according the details in the plans and according to Section 664 of the Standard Specifications and as modified herein.

General Requirements: Prior to fabrication or ordering materials, the Contractor must submit detailed shop drawings to the Engineer for approval; including materials, fittings, attachments, anchors and accessories required for complete assembly of the CTA fence and gates.

Materials: Materials must meet the requirements of Section 1000 of the Standard Specifications.

Fabric: The fabric must meet the requirements of Section 1006.27.(a).b of the Standard Specifications.

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Gates: The gates must be as detailed on the plans. All hardware shall be thoroughly secured and in place, properly adjusted and left in perfect working order.

Method of Measurement: CTA FENCE will be measured in feet along the top of the fence, from center to center of end posts excluding the length occupied by gates. CTA FENCE GATES will be measured per each in place.

Basis of Payment: This work will be paid for at the contract unit price per foot for CTA FENCE which price is payment in full for all shop and fabrication drawings, materials, fabricating and installing the complete fence including posts, tension wire, fittings, chain link fabric, anchorage, hardware, and furnishing and installing protective electrical grounds and other incidentals for the fence.

CTA FENCE GATES will be paid for at the contract unit price per each which is payment in full for furnishing all materials, fabricating and installing the complete gates including the gate posts, base plates, fittings, wheels and trucks, chain link fabric, anchorage, hardware, and other incidentals for the gates, properly adjusted and left in perfect working order as specified herein.

(EK 11/16/04)

### **CHAIN LINK FENCE, 6' (SPECIAL)**

Description: This work consists of fabricating, erecting, maintaining, removing, and disposing of a temporary fence and access gates to maintain access control to the CTA operating area at the locations shown in the contract plans according to the details in the plans, as directed by the Engineer, and according to Section 664 of the Standard Specifications and as modified herein.

#### General Requirements:

The fence fabric must meet the requirements of Section 1006.27.(a).b of the Standard Specifications. The fence must remain in place until the new permanent CTA fence is completed.

Posts must meet the requirements of Section 1006.27.(b) of the Standard Specifications. The fence posts are to be driven directly into the existing CTA ballast, and are not to be set in concrete.

Access gates must not swing into the CTA operating area.

Method of Measurement: CHAIN LINK FENCE, 6' (SPECIAL) will be measured in feet in place along the top of the fence from center to center of end posts, excluding the length occupied by gates. CHAIN LINK GATES, of the opening sizes and types specified, will be measured per each in place.

Basis of Payment: This work will be paid for at the contract unit price per foot for CHAIN LINK FENCE, 6' (SPECIAL) and at the contract unit price each for CHAIN LINK GATES, of the opening sizes and types specified, which price is payment in full for all shop and fabrication drawings, materials, fabricating and installing the complete fence including posts, tension wire, fittings, chain link fabric, anchorage, hardware, maintenance, removal and other incidentals for the fence and gates.

### **SAND BACKFILL**

Description: This work shall consist of furnishing, transporting, and placing a sand backfill between concrete barriers in accordance with Section 586 of the IDOT Standard Specifications and as indicated on the Plans.

Method of Measurement: Sand backfill will be measured for payment as specified in Article 586.04 of the IDOT Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per unit cubic meter for SAND BACKFILL which price shall be payment in full for all labor, equipment, and materials necessary to complete the work as specified herein.

(BBA 6/13/05)

### **SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER CLEANING**

Description: This work shall consist of cleaning sediment from each assembled inlet filter. The Engineer will designate the need for cleaning based on the rate of debris and silt collected at each inlet filter location.

Cleaning of the inlet filter shall consist of inspecting and cleaning (includes removal and proper disposal of debris and silt that has accumulated in the filter fabric bag) by vacuuming, removing and dumping or any other method approved by the Engineer.

Method of Measurement: Cleaning of the drainage structure inlet filter shall be measured for payment each time that the cleaning work is performed at each of the drainage structure inlet filter locations.

Basis of Payment: The work will be paid for at the contract unit price per each for SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER CLEANING, which price shall include all costs for labor, materials, equipment, and incidentals necessary to perform the work.

(District 1 03/29/04)

### **TRAFFIC CONTROL PLAN:**

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

Special attention is called to the following sections of the Standard Specifications, the Highway Standards, and the special provisions relating to traffic control:

Standard Specifications:

- Section 701 - Work Zone Traffic Control
- Section 702 - Work Zone Traffic Control Devices
- Section 703 - Work Zone Pavement Markings
- Section 783 - Pavement Marking and Marking Removal

Highway Standards:

701101	701400	701401	701402	701411
701446	702001	704001		

SUPPLEMENTAL SPECIFICATIONS

702 Work Zone Traffic Control Devices

RECURRING SPECIAL PROVISIONS

NONE

BDE SPECIAL PROVISIONS

Flagger Vests  
Portable Changeable Message Sign  
Temporary Concrete Barrier  
Traffic Control Deficiency Deduction  
Work Zone Public Information Sign  
Work Zone Speed Limit Signs  
Work Zone Traffic Control Devices

CONTRACT SPECIAL PROVISIONS

Traffic Control for Work Zone Areas  
Traffic Control and Protection (Expressways)  
Traffic Control Surveillance (Expressways)  
Traffic Control and Protection for Alternate Route Signing  
Keeping the Expressway Open to Traffic  
Failure to Open Traffic Lanes to Traffic

CONTRACT PLAN SHEETS

Maintenance of Traffic Plan Sheets (Stage 1, Stage 2A, and Stage 2B)  
General Notes and MOT Typical Sections  
Detour Route Signing

**TRAFFIC CONTROL FOR WORK ZONE AREAS**

Effective: September 14, 1995      Revised: January 30, 2003

Work zone entry and exit openings shall be established daily by the Contractor with the approval of the Engineer. All vehicles including cars and pickup trucks shall exit the work zone at the exit openings. All trucks shall enter the work zone at the entry openings. These openings shall be signed in accordance with the details shown elsewhere in the plans and shall be under flagger control during working hours.

The Contractor shall plan his trucking operations into and out of the work zone as well as on to and off the expressway to maintain adequate merging distance. Merging distances to cross all lanes of traffic shall be no less than 1/2 mile. This distance is the length from where the trucks enter the expressway to where the trucks enter the work zone. It is also the length from where the trucks exit the work zone to where the trucks exit the expressway. The stopping of expressway traffic to allow trucks to change lanes and/or cross the expressway is prohibited.

Failure to comply with the above requirements will result in a Traffic Control Deficiency charge. The deficiency charge will be calculated as outlined in the special provision for "TRAFFIC CONTROL DEFICIENCY DEDUCTION". The Contractor will be assessed this daily charge for each day a deficiency is documented by the Engineer.

### **TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)**

Effective: 3/8/96 Revised: 02/9/05

This work shall include furnishing, installing, maintaining, replacing, relocating, and removing all traffic control devices used for the purpose of regulating, warning, or directing traffic. Traffic control and protection shall be provided as called for in the plans, applicable Highway Standards, District One Expressway details, Standards and Supplemental Specifications, these Special Provisions, or as directed by the Engineer.

### GENERAL

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions on the expressway through the construction zone. The Contractor shall arrange his operations to keep the closing of lanes and/or ramps to a minimum.

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices. Special attention shall be given to existing warning signs and overhead guide signs during all construction operations. Warning signs and existing guide signs with down arrows shall be kept consistent with the barricade placement at all times. The Contractor shall immediately remove, completely cover, or turn from the motorist's view all signs which are inconsistent with lane assignment patterns.

The Contractor shall coordinate all traffic control work on this project with adjoining or overlapping projects, including barricade placement necessary to provide a uniform traffic detour pattern. When directed by the Engineer, the Contractor shall remove all traffic control devices that were furnished, installed, or maintained by him under this contract, and such devices shall remain the property of the Contractor. All traffic control devices shall remain in place until specific authorization for relocation or removal is received from the Engineer.

### Signs

Prior to the beginning of construction operations, the Contractor will be provided a sign log of all existing signs within the limits of the construction zone. The Contractor is responsible for verifying the accuracy of the sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the Contractor. All provisions of Article 107.25 of the Standard Specifications shall apply except the third paragraph shall be revised to read: "The Contractor shall maintain, furnish, and replace at his own expense, any traffic sign or post which has been

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damaged or lost by the Contractor or a third party. The Contractor will not be held liable for third party damage to large freeway guide signs".

### Exit Gore Signs

The exit gore signs as shown in Standard 701411 shall be a minimum size of 1.2m (48 inch) by 1.2m (48 inch) with 300mm (12 inch) capital letters and a 500mm (20inch) arrow.

### Rough Grooved Surface Signs

The Contractor shall furnish and erect "Rough Grooved Surface" signs (W8-1107) on both sides of the expressway, 300m (1000') in advance of any milled area. These signs shall be erected on all ramps that enter the milled area. All signs shall be mounted at a minimum clearance height of 2.1m (7').

### Drums/Barricades

Check barricades shall be placed in work areas perpendicular to traffic every 300m (1000'), one per lane and per shoulder, to prevent motorists from using work areas as a traveled way. Check barricades shall also be placed in advance of each open patch, or excavation, or any other hazard in the work area, the first at the edge of the open traffic lane and the second centered in the closed lane. Check barricades, either Type I or II, or drums shall be equipped with the flashing light.

To provide sufficient lane widths (3m [10'] minimum) for traffic and also working room, the Contractor shall furnish and install vertical barricades with steady burn lights, in lieu of Type II or drums, along the cold milling and asphalt paving operations. The vertical barricades shall be placed at the same spacing as the drums.

### Vertical Barricades

Vertical barricades shall not be used in lane closure tapers, lane shifts, and exit ramp gores. Also, vertical barricades shall not be used as patch barricades or check barricades. Special attention shall be given, and ballast provided per manufacture's specification, to maintain the vertical barricades in an upright position and in proper alignment.

### Temporary Concrete Barrier Wall

Prismatic barrier wall reflectors shall be installed on both the face of the wall next to traffic and the top of all temporary concrete barrier wall. These reflectors shall be placed at 50 foot centers along tangents and at 25 foot centers on curves. The color of these reflectors shall match the color of the edgelines (yellow on the left and crystal or white on the right). If the base of the temporary concrete barrier wall is 12 inches or less from the travel lane, then the wall shall also have a 6 inch wide temporary pavement marking edgeline (yellow on the left and white on the right).

Method of Measurement: This item of work will be measured on a lump sum basis for furnishing, installing, maintaining, replacing, relocating, and removing traffic control devices required in the plans and these Special Provisions. Traffic control and protection required under Standards 701101, 701400, 701401, 701402, 701411 701426 and 701446 will be included with this item.

Basis of Payment:

- a) This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS). This price shall be payment in full for all labor, materials, transportation, handling, and incidental work necessary to furnish, install, maintain, replace, relocate, and remove all Expressway traffic control devices required in the plans and specifications.

In the event the sum total value of all the work items for which traffic control and protection is required is increased or decreased by more than ten percent (10%), the contract bid price for Traffic Control and Protection will be adjusted as follows:

$$\text{Adjusted contract price} = .25P + .75P [1+(X-0.1)]$$

Where "P" is the bid unit price for Traffic Control and Protection:

Difference between original and final sum total  
value of all work items for which traffic

Where "X" = control and protection is required.

Original sum total value of all work items for which  
traffic control and protection is required.

The value of the work items used in calculating the increase and decrease will include only items that have been added to or deducted from the contract under Article 104.02 of the Standard Specifications and only items which require use of Traffic Control and Protection.

- b) The Engineer may require additional traffic control be installed in accordance with standards and/or designs other than those included in the plans. In such cases, the standards and/or designs will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required will be in accordance with Article 109.04 of the Standard Specifications.
- c) Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. Revisions or modifications to the traffic control shown in the contract shall be submitted by the Contractor for approval by the Engineer. No additional payment will be made for a Contractor requested modification.
- d) Temporary concrete barrier wall will be measured and paid for according to Section 704.

Impact attenuators, temporary bridge rail, and temporary rumble strips will be paid for separately.

All temporary pavement markings will be measured and paid for according to Section 703 and Section 780.

All pavement marking removal will be measured and paid for according to Section 703 or Section 783.

Temporary pavement marking at the base of the temporary concrete barrier wall will be measured and paid for as TEMPORARY PAVEMENT MARKING, 6".

All prismatic barrier wall reflectors will be measured and paid for according to Section 782.

### **TRAFFIC CONTROL SURVEILLANCE (EXPRESSWAYS)**

The contractor shall provide a person with a vehicle to survey, inspect and maintain all temporary traffic control devices when a lane is closed to traffic and when hazards are present adjacent to or within 10 foot of the edge of pavement for more than 24 hours.

The surveillance person is required to drive through the project, to inspect all temporary traffic control devices, to correct all traffic control deficiencies, if possible, or immediately contact someone else to make corrections and to assist with directing traffic until such corrections are made, at intervals not to exceed 4 hours. This person shall list every inspection on an inspection form, furnished by the Engineer, and shall return a completed form on the first working day after the inspections are made.

The Contractor shall supply a telephone staffed on a 24 hour a day basis to receive any notification of any deficiencies regarding traffic control and protection or receive any request for improving, correcting or modifying traffic control, installations or devices, including pavement markings. The Contractor shall dispatch additional men, materials and equipment as necessary to begin to correct, improve or modify the traffic control as directed, within one hour of notification by this surveillance person or by the Department. Upon completion of such corrections and/or revisions, the Contractor shall notify the Department's Communication Center at (847) 705 4612.

Method of Measurement: Traffic Control Surveillance will be measured on calendar day basis. One calendar day is equal to a minimum of six (6) inspections. The inspections shall start within 4 hours after the lane is closed to traffic or a hazard exists within 10 foot from the edge of pavement and shall end when the lane closure or hazard is removed.

Basis of Payment: Surveillance will be paid for at the contract unit price per calendar day or fraction thereof for TRAFFIC CONTROL SURVEILLANCE (EXPRESSWAYS). The price shall include all labor and equipment necessary to provide the required inspection and maintenance on the expressway and on all cross streets which are included in the project. The cost of the materials for the maintenance of traffic control devices shall be included in the traffic control pay items.

### **TRAFFIC CONTROL AND PROTECTION FOR ALTERNATE ROUTE SIGNING**

Description: This work consists of the placement, maintenance, and removal of the alternate route signing as shown on the plans or as directed by the Engineer. This must be done in accordance with applicable portions of Section 700 of the Standard Specifications.



The alternate route signing must be in place and approved by the Engineer prior to any permanent lane closures on the expressway. The Contractor must maintain the alternate route signing to the satisfaction of the Engineer. The Contractor must maintain the alternate route signing until both Contracts 62302 and 62300 reach completion.

At the completion of these projects, the Contractor will remove the Alternate Route signing and deliver all materials to a location directed by the Engineer.

Method of Measurement: TRAFFIC CONTROL AND PROTECTION FOR ALTERNATE ROUTE SIGNING will be measured per each calendar month.

Basis of Payment: This work shall be paid for at the contract unit price per calendar month, for TRAFFIC CONTROL AND PROTECTION FOR ALTERNATE ROUTE SIGNING which price is payment in full for all labor, tools, equipment, and materials necessary to complete this work.

(BBA 6/24/05)

### **KEEPING THE EXPRESSWAY OPEN TO TRAFFIC**

Whenever work is in progress on or adjacent to an expressway, the Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards and the District Freeway details. All Contractor's personnel shall be limited to these barricaded work zones and shall not cross the expressway.

The Contractor shall request and gain approval from the Illinois Department of Transportation's Expressway Traffic Operations Engineer (847-705-4151) twenty-four (24) hours in advance of all daily lane, ramp and shoulder closures and seventy-two (72) hours in advance of all permanent and weekend closures on all Freeways and/or Expressways in District One. This advance notification is calculated based on workweek of Monday through Friday and shall not include weekends or Holidays.

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**LOCATION: I-90/94 DAN RYAN (31<sup>st</sup> to 71<sup>st</sup>)**

**PRIOR TO STAGE CONSTRUCTION, TEMPORARY ONE AND TWO-LANE CLOSURES IN THE EXPRESS OR LOCAL LANES WILL BE PERMITTED DURING THE HOURS LISTED BELOW:**

WEEK NIGHT	TYPE OF CLOSURE	ALLOWABLE LANE CLOSURE HOURS			
		INBOUND		OUTBOUND	
Sunday thru Thursday	One Lane	8:00 PM	- 5:00 AM	9:00 PM	- 6:00 AM
	Two Lanes	10:00 PM	- 5:00 AM	12:01 AM	- 6:00 AM
Friday	One Lane	8:00 PM (Fri)	- 6:00 AM (Sat)	9:00 PM (Fri)	- 7:00 AM (Sat)
	Two Lanes	11:00 PM (Fri)	- 6:00 AM (Sat)	12:01 AM (Sat)	- 7:00 AM (Sat)
Saturday	One Lane	8:00 PM (Sat)	- Noon (Sun)	9:00 PM (Sat)	- Noon (Sun)
	Two Lanes	11:00 PM (Sat)	- 9:00 AM (Sun)	12:01 AM (Sun)	- 9:00 AM (Sun)

**DURING STAGED CONSTRUCTION (when only 3 Local lanes are open to traffic and Express lanes closed)**

WEEK NIGHT	TYPE OF CLOSURE	ALLOWABLE LANE CLOSURE HOURS			
		INBOUND		OUTBOUND	
Sunday thru Thursday	One Lane	10:00 PM	- 5:00 AM	12:01 AM	- 6:00 AM
Friday	One Lane	11:00 PM (Fri)	- 6:00 AM (Sat)	12:01 AM (Sat)	- 7:00 AM (Sat)
Saturday	One Lane	11:00 PM (Sat)	- 9:00 AM (Sun)	12:01 AM (Sun)	- 9:00 AM (Sun)

**DURING STAGED CONSTRUCTION (when 4 lanes are open to traffic -- 3 Local & 1 Express, the 1 Express lane may be closed during the hours listed below ) Closures in the Local Lanes will not be allowed during this stage.**

WEEK NIGHT	TYPE OF CLOSURE	ALLOWABLE LANE CLOSURE HOURS			
		INBOUND		OUTBOUND	
Sunday thru Thursday	One Lane	8:00 PM	- 5:00 AM	9:00 PM	- 6:00 AM
Friday	One Lane	8:00 PM (Fri)	- 6:00 AM (Sat)	9:00 PM (Sat)	- 7:00 AM (Sat)
Saturday	One Lane	8:00 PM (Sat)	- 10:00 AM (Sun)	9:00 PM (Sun)	- 10:00 AM (Sun)

During the White Sox home games, the exit ramps from the expressway to the cross street at 31st, 35th and 39th shall not be closed until after 8:30 p.m., and the entrance ramps from the cross streets to the expressway shall not be closed until after 11:30 p.m. Also, all southbound temporary lane closures and northbound lane closures north of 35th St. will not be allowed until after 11:30pm.

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In addition to the hours noted above, temporary shoulder and partial ramp closures are allowed weekdays between 9:00 AM and 3:00 PM.

Narrow lanes and permanent shoulder closures will not be allowed between Dec. 1<sup>st</sup> and April 1<sup>st</sup>.

Full Expressway Closures will only be permitted for a maximum of 15 minutes at a time during the low traffic volume hours of 1:00 a.m. to 5:00 Monday thru Friday and from 1:00 am to 7:00 am on Sunday. During Full Expressway Closures, the Contractor will be required to close off all lanes except one, using State Freeway Standard Closures. Police forces shall be notified and requested to close off the remaining lane at which time the work item may be removed or set in place. The District One Traffic Operations Department **shall be** notified (847-705-4151) at least 3 working days (weekends and holidays DO NOT count into this 72 hours notification) in advance of the proposed road closure and will coordinate the closure operations with police forces.

All stage changes requiring the stopping and/or the pacing of traffic shall take place during the allowable hours for Full Expressway Closures and shall be approved by the Department.

All daily lane closures shall be removed during adverse weather conditions such as rain, snow, and/or fog and as determined by the Engineer.

Additional lane closure hour restrictions may have to be imposed to facilitate the flow of traffic to and from major sporting events and/or other events.

All lane closure signs shall not be erected any earlier than one-half (1/2) hour before the starting hours listed above. Also, these signs should be taken down within one-half (1/2) hour after the closure is removed.

The Contractor will be required to cooperate with all other contractors when erecting lane closures on the expressway. All lane closures (includes the taper lengths) without a three (3) mile gap between each other, in one direction of the expressway, shall be on the same side of the pavement. Lane closures on the same side of the pavement with a half (1/2) mile or less gap between the end of one work zone and the start of taper of next work zone should be connected. The maximum length of any lane closure on the project and combined with any adjacent projects shall be three (3) miles. Gaps between successive permanent lane closures shall be no less than two (2) miles in length.

Private vehicles shall not be parked in the work zone. Contractor's equipment and/or vehicles shall not be parked on the shoulders or in the median during non-working hours. The parking of equipment and/or vehicles on State right-of-way will only be permitted at the locations approved by the Engineer.

(District 1 05-31-05)

**FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC**

Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified under the Special Provisions for "Keeping the Expressway Open to Traffic", the Contractor shall be liable to the Department for the amount of:

One Lane Blocked \$ 3,000.00

Two Lanes Blocked \$ 5,000.00

Not as a penalty but as liquidated and ascertained damages for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. Such damages may be deducted by the Department from any monies due the Contractor. These damages shall apply during the contract time and during any extensions of the contract time.

### **EXTENDED LIFE CONCRETE PAVEMENT (30 YEAR)**

Description: This work shall consist of constructing concrete pavement, shoulders and appurtenances of an extended life (30 year) design at locations specified on the plans. Work shall be performed according to the Standard Specifications except as modified herein:

Definitions:

- a.) Granular Subbase. The aggregate above the subgrade and below the granular subbase cap.
- b.) Granular Subbase Cap. The aggregate above the granular subbase and below the bituminous concrete base.
- c.) Bituminous Concrete Base. The bituminous concrete layer above the granular subbase cap and below the pavement.

Embankment: Add the following to Section 205:

“Embankment material shall be approved by the Engineer and shall have a standard laboratory density of not less than 90 lb/cu ft.. It shall not have an organic content greater than ten percent when tested according to AASHTO T 194. Soils that demonstrate the following properties shall be restricted to the interior of the embankment:

- a.) A grain size distribution with less than 35 percent passing the #200 sieve.
- b.) A plasticity index (PI) of less than 12.
- c.) A liquid limit (LL) in excess of 50.
- d.) Potential for erosion.
- e.) Potential for excess volume change.

Such soils shall be covered on the side and top with a minimum of 3 ft. of soil not characterized by any of the five items above.”

Revised the second paragraph of Article 205.05 to read:

“All lifts shall be compacted to not less than 95 percent of the standard laboratory density.”

Revise the first sentence of the third paragraph of Article 205.05 to read:

“The embankment shall not contain more than 110 percent of the optimum moisture content determined according to AASHTO T 99 (Method C).”

Subgrade Preparation: Add the following to the second paragraph of Article 301.06:

During compaction, the upper 8 in. of the subgrade shall not contain more than 110 percent of the optimum moisture content determined according to AASHTO T 99 (Method C).”

Granular Subbase and Granular Subbase Cap: Revise Article 311.02 to read:

“311.02 Materials. Materials shall meet the requirements of the following Articles of Section 1000 – Materials:

- a.) Granular Subbase (Note 1).....1004.04
- b.) Granular Subbase Cap (Note 2) .....1004.04

Note 1. The quality requirements in Article 1004.04 (b) shall not apply. The granular subbase shall be subbase granular material Type B, shall be classified as Category III in the Aggregate Gradation Control System (AGCS), and shall meet the following gradation requirements:

<b>Granular Subbase Gradations</b>						
Coarse Aggregate Type	Sieve Size Percent Passing					
	8 in.	6 in.	4 in.	2 in.	#4	#200
Crushed Stone, Crushed Slag, and Crushed Concrete	100	97 ± 3	90 ± 10	45 ± 25		5 ± 5
Crushed Gravel		100	90 ± 10	55 ± 25	30 ± 20	5 ± 5

The granular subbase shall be well-graded from coarse to fine. Material that is gap-graded or single-sized will not be accepted.

Note 2. The granular subbase cap shall be subbase granular material, Type B and shall be CA 6 gradation.” Reclaimed Asphalt Pavement (RAP) meeting Article 1004.07 of the Standard Specifications and having 100% passing the 3 inch sieve and well-graded down through fines may also be used as capping aggregate. RAP shall not contain steel slag or other expansive material. The results of the Department’s tests on the RAP material will be the determining factor for consideration as expansive.

Add the following to Article 311.03:

“(h) Vibratory Roller .....1101.01 (g)”

Revise Article 311.05(c) to read:

“(c) Subbase Granular Material, Type B. The manner of placing and compacting the material shall be approved by the Engineer prior to starting the work.

The Granular subbase shall be constructed in layers not more than 2 ft. thick when compacted. Each layer shall be compacted with a vibratory roller to the satisfaction of the Engineer.

After completion of the granular subbase, the granular subbase cap shall be placed. Each layer shall be compacted with a vibratory roller to the satisfaction of the Engineer.

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If the moisture content of the material is insufficient to obtain satisfactory compaction, sufficient water shall be added, at the Contractors expense, so that satisfactory compaction can be obtained.”

Revise that first sentence of the first paragraph of Article 311.08 (b) to read:

“Aggregate used in the granular subbase and granular subbase cap will be measured for payment in square meters (square yards).”

Stabilized Sub Base: This work shall be performed according to the special provision, “Superpave Bituminous Concrete Mixtures”. The mixture used shall be the Superpave IL-19.0, N50, 3.0% voids.

Pavement and Shoulders: Add the following to Articles 420.03, 421.03, and 483.03:

“The Contractor shall submit to the Engineer, for approval before paving, the proposed internal type vibrator spacing for the paver. The Contractor shall also provide the proposed vibrator operating frequencies for a paving speed greater than or equal to 3 ft./min. and a paving speed less than 3 ft/min.”

Add the following to Article 421.05:

“When the surface temperature, as measured on the surface with a device as approved by the Engineer, of the Stabilized Sub-base is 115°F or greater the Contractor shall spray the Stabilized Sub-base with a water mist with equipment that meets the approval of the Engineer. The Stabilized Sub-base shall be cooled below 115°F prior to paving on top. The water spray shall not produce excessive water runoff or leave puddles on the Stabilized Sub-base at the time of paving. All cooling shall be completed a minimum of 10 minutes prior to paving. The surface temperature shall be monitored during the paving operation to determine if the Stabilized Sub-base requires re-spraying.

The water used shall meet the requirements of Section 1002.”

Portland Cement Concrete:” Revise Article 1020.02 (d) to read:

Revise Article 1020.05 to Read: Fly Ash – Will not be an option to partially replace Portland Cement in Concrete Mixtures, for Class BD, PV, MS, SI, SC and SH

“(d) Coarse Aggregate (Note 1) .....1004.01 – 1004.02”

Add the following to Article 1020.02:

“Note 1. For pavement, median, curb, gutter, combination curb and gutter and concrete barrier, the freeze-thaw rating expansion limit for the coarse aggregate shall be a maximum of 0.040 percent according to Illinois Modified AASHTO T 161, Procedure B.”

Revise the curing table of Article 1020.13 as follows:

“The curing period for pavement, median, curb, gutter and combination curb and gutter shall be a minimum of 7 days.”

Revise the first sentence of the second paragraph of Article 1020.13 (a)(4) to read:

“Membrane curing shall be completed within ten minutes after tining.”

Add the following to Article 1020.14(a):

“Prior to placing concrete, the Contractor shall indicate to the Engineer how the temperature of the concrete mixture will be controlled. If the temperature requirements are not being met, production of concrete shall stop until corrective action is taken. The Contractor will be allowed to deliver concrete already in route to the paving site.”

Method of Measurement: This work shall be measured for payment per sections 200, 300, and 400 of the Standard Specifications.

Basis of Payment: The plans indicate which roadways will be constructed to the 30 year extended life pavement requirements. The cost to construct the roadways to the 30 year extended life pavement requirements will not be paid for separately, but included in the cost of the various items of work.

The additional costs to meet the various Material, Samples, Compaction, Stability, Placing and Trimming requirements for embankment beneath the 30 year extended life pavement will not be measured for payment, but included in the cost of the various items of excavation.

The additional cost to meet the various Material, Equipment, Placing, Stability, Compaction, Trimming, and Finishing requirements for Granular Subbase beneath 30 year extended life pavement will not be paid for separately, but included in the cost per square yard for SUBBASE GRANULAR MATERIAL TYPE B, of the thickness specified. At the option of the contractor, the trimming of the stabilized subbase will not be required as per Article 311.06 except that the subbase shall be brought to true shape by placing the material in two equal lifts with a grade controlled mechanical paver as approved by the Engineer.

The additional costs to meet the various Material, Placing, Stability, Compaction, Trimming, and Finishing requirements for the bituminous stabilized subbase beneath 30 year extended life pavement will not be paid for separately, but included in the cost per square yard for STABILIZED SUBBASE, of the thickness specified.

The additional costs to meet the various Material, Equipment, Placement, Finishing, Curing, and Sealing requirements for 30 year extended life pavement will not be paid for separately but included in the cost per square yard for CONTINUOUSLY REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT, of the thickness specified; per square yard for PORTLAND CEMENT CONCRETE SHOULDER, of the thickness specified; per each for LUG SYSTEM COMPLETE, of the width specified; per square yard of BRIDGE APPROACH PAVEMENT (SPECIAL).

(District 1 05/16/05)

#### **USE OF MULTIPLE PLANTS FOR THE SAME CONSTRUCTION ITEM**

The Contractor has the option to simultaneously use central-mixed, or shrink-mixed concrete from more than one plant, in the same construction item. However, the following criteria shall be met:

- a) For each plant the cement, fly ash, ground granulated blast-furnace slag, microsilica, and high-reactivity metakaolin shall be the same materials and from the same source.

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This requirement may not be changed by Articles 1001.04, 1010.03, 1014.02, 1015.02, and 1016.02.



- b) For each plant the fine aggregate shall be the same type and gradation.
- c) For each plant the coarse aggregate shall be the same material and from the same source. This requirement may not be changed by Article 1004.02 (e).
- d) For each plant the admixtures shall be the same material and from the same source.
- e) For each plant the mix design material proportions and water/cement ratio shall be the same. The required cement factor for central-mixed concrete shall be increased to match truck-mixed or shrink-mixed concrete, if the latter two types of mixed concrete are used.
- f) The maximum slump difference between deliveries of concrete shall be 19mm (0.75 in.) when tested at the jobsite. If the difference is exceeded, but test results are within specification limits, the concrete may be used. The Contractor shall take immediate corrective action and test subsequent deliveries of concrete until the tolerance has been met, for each day, the first three truck loads of delivered concrete from each plant shall be tested for slump. Thereafter, when a specified test frequency for slump is to be performed, it shall be conducted for each plant at the same time.
- g) The maximum air content difference between deliveries of concrete shall be 0.9 percent when tested at the jobsite. If the difference is exceeded, but test results are within specification limits, the concrete may be used. The contractor shall take immediate corrective action and test subsequent deliveries of concrete, until the tolerance has been met for each day, the first three truck loads of delivered concrete from each plant shall be tested for air content. Thereafter, when a specified test frequency for air content is to be performed, it shall be conducted for each plant at the same time.
- h) Compressive strength tests shall be performed and taken at the jobsite for each plant. When a specified compressive strength is to be performed, it shall be conducted for each plant at the same time. The difference between plants for their compressive strength mean shall not exceed 2070 kPA (300 psi). The compressive strength standard deviation for each plant shall not exceed 3450 kPA (500 psi). The mean and standard deviation requirements shall apply to any point of time for testing. Corrective action will be required if the tolerance is exceeded.
- i) The Maximum haul time difference between deliveries of concrete shall be 15 minutes. If the difference is exceeded, but haul time is within specification limits, the concrete may be used. The contractor shall take immediate corrective action and check subsequent deliveries of concrete. Until the tolerance has been met.

If the Contractor does not consistently meet all criteria for providing uniform concrete during construction, the Engineer shall not allow delivery from multiple plants or require the Contractor to take additional corrective action. If the Engineer allows additional corrective action and it is unsuccessful, delivery from multiple plants will not be allowed.

## **LUG SYSTEM REMOVAL**

Description. This work consists of the removal and disposal of existing lug systems that are below the existing continuously reinforced pavement, at the locations shown in the plans, and as directed by the Engineer, in accordance with applicable portions of Section 440 of the Standard Specifications and as modified herein. The existing lug system must be removed to an elevation below the proposed pavement subbase, underdrain, drainage structure or storm sewer pipe, whichever is lower, at the location of the existing lug system. Any backfilling that is required due to removals below the minimum depths specified above shall be in accordance with applicable portions of Section 208 of the Standard Specifications and is included in the unit cost of this item and will not be paid for separately.

Removal of the existing continuously reinforced pavement immediately above the existing lug system is not included in the unit cost of this item, but is paid for separately as PAVEMENT REMOVAL.

Method of Measurement: LUG SYSTEM REMOVAL will be measured in per each lug system location as identified in the plans. One lug system location consists of a series of individual lugs as shown on the plans.

Basis of Payment: This work shall be paid for at the contract unit price per each, for LUG SYSTEM REMOVAL which price is payment in full for all labor, tools, equipment and materials necessary to remove and dispose of the lug system.

(BBA 3/1/05)

## **TEMPORARY PAVEMENT AND SHOULDERS**

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

The contractor shall use either portland cement concrete as outlined in Section 353 and 354 of the Standard Specifications or bituminous concrete according to Section 355, 356, 406 of the Standard Specifications, and the special provisions for Bituminous Base Course/Widening Superpave and Superpave Bituminous Concrete Mixtures. The bituminous 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 bituminous concrete are shown in the plans.

Articles 355.10 and 406.21 of the Standard Specifications shall not apply.

The removal of the temporary pavement and temporary shoulders shall conform to Section 440 of the Standard Specifications.

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

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

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

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

(EK / BBA 3/04/05)

### **TEMPORARY SOIL RETENTION SYSTEM TO REMAIN IN PLACE**

Description. This work shall consist of designing, furnishing, installing, adjusting for stage construction when required and performing all the necessary work in accordance with the Guide Bridge Special Provision (Effective August 19, 2004) for TEMPORARY SOIL RETENTION SYSTEM (GBSP44), with the exception noted below, at locations as shown in the Plans.

The TEMPORARY SOIL RETENTION SYSTEM TO REMAIN IN PLACE shall be cut and removed 3 feet below finished grade or as directed by the Engineer, and the amount left below the cut off point is to remain in location, undisturbed.

Basis of Payment. This work will be paid for in accordance with the Guide Bridge Special Provision (Effective August 19, 2004) for TEMPORARY SOIL RETENTION SYSTEM (GBSP44), and no additional payment shall be received for cutting and removing the excess temporary soil retention system from the site.

(EK 06/15/05)

### **COMPOST FURNISH AND PLACE**

Delete the first sentence of Article 211.01 Description and substitute the following:

This work shall consist of furnishing, transporting and placing topsoil, special types of topsoil, compost, or compost/topsoil blend to the depth specified in areas as shown in the plans or as directed by the Engineer.

Delete the first sentence of the first paragraph of Article 211.04 Placing Topsoil and Compost and substitute the following:

Topsoil, compost, or compost/topsoil blend shall not be placed until the area to be covered has been shaped, trimmed and finished according to Section 212.

Delete the first sentence of the second paragraph of Article 211.04 Placing Topsoil and Compost and substitute the following:

The Engineer will verify that that the proper topsoil, compost, or compost/topsoil blend depth has been applied.

Add the following to Article 211.06 Clearing Area and Disposal of Surplus Material:

Prior to placing topsoil, compost or compost/topsoil blend, the contractor shall remove all litter (including plastic bags, bottles, rocks, etc.) and plant debris.

Add the following to Article 211.08 Basis of Payment:

Payment shall include all costs for materials, equipment and labor required to complete the work specified herein, including the cost of removing and disposing of any debris.

The cost to comply with this requirement will not be paid for separately, but shall be considered as included in the contract unit bid prices of the contract, and no additional compensation will be allowed.

(District 1 05/07/04)

### **MOWING**

Description: This work shall consist of mowing existing grass cover not disturbed by the project or areas that are seeded or sodded. The grass shall be cut to a height of 3 inches. All areas shall be mowed when the height of the grass 6 inches or when directed by the engineer. This work shall be done according to the applicable portions of Section 250.06 of the Standard Specification for Road and Bridge Construction.

The Method of Measurement and Basis of Payment will be according to Section 250.09 and 250.10 of the Standard Specification book

### **POLE FOUNDATION, REMOVED**

Description. This work consists of the removal and disposal of existing roadway lighting pole foundations, including any backfilling of the excavated areas at the locations shown in the plans, and as directed by the Engineer, in accordance with applicable portions of Section 842 of the Standard Specifications and as modified herein. The existing foundation must be removed to an elevation below the proposed pavement subbase, underdrain, drainage structure or storm sewer pipe, whichever is lower, at the location of the existing foundation.

Removal of any concrete barrier wall adjacent to, or immediately above the existing foundation is not included in this item, but is paid for separately as CONCRETE BARRIER REMOVAL.

Method of Measurement: POLE FOUNDATION, REMOVED will be measured in per each foundation removed.

Basis of Payment: This work shall be paid for at the contract unit price per each, for POLE FOUNDATION, REMOVED which price is payment in full for all labor, tools, equipment and materials necessary to remove and dispose of the pole foundation.

(EK 11/09/04)

### **BRACED EXCAVATION**

Description. This work shall consist of furnishing, installing and removing all necessary sheeting and bracing members required to support the excavation according to the applicable requirements of Section 502 of the Standard Specifications. This item shall also include all excavation of earth necessary to obtain the bottom of footing elevations shown on the plans where braced excavation is indicated. The bracing shall properly support excavations by the use of sheeting, timber or plates etc., to prevent movement of soil, structures, pavements or utilities outside of the excavated area.

Construction Requirements. The Contractor shall submit design calculations and shop drawings prepared and sealed by an Illinois Licensed Structural Engineer for the temporary earth retention system. Shop drawings shall show the design and all necessary details for the construction of the bracing system. The design calculations and shop drawings shall be submitted to the Engineer for approval.

Approval of the Engineer shall be received before the Contractor proceeds with his construction operations. However, in any event, the Contractor shall be fully responsible for the safety, stability and adequacy of the bracing system and shall be solely responsible and liable for all damages resulting from his construction operations or from failure or inadequacy of the bracing system.

In the event the bracing system protecting the existing embankment fails or is otherwise inadequate, in the judgement of the Engineer, the Contractor shall, at his own expense, take all necessary steps to restore the embankments to a safe operating condition to the satisfaction of the Engineer.

Bracing members shall be installed as soon as an excavation level is reached to permit their installation.

Where footing excavation is in rock, the rock shall be excavated to the plan dimensions.

Method of Measurement. This work shall be measured in cubic meters (cubic yards) according to the requirements for structure excavation or Rock Excavation for Structures as specified in Section 502.14 of the Standard Specifications.

Basis of Payment. This work, as herein specified and shown on the plans, will be paid for at the contract unit price per cubic meter (cubic yard) for BRACED EXCAVATION. Payment for BRACED EXCAVATION will be limited to those locations shown on the plans. All sheeting and bracing members associated with braced excavation will not be measured for payment but shall be included in the cost for BRACED EXCAVATION. No separate payment will be made for structure excavation where BRACED EXCAVATION is shown.

Excavation in rock will be paid for according to Section 502 for Rock Excavation for Structures.

(BBA 6/27/05)

### **STEEL CASING PIPE FOR STORM SEWER JACKED IN PLACE**

Revise Article 552.04 to include the following:

"Jacking must be accomplished by first jacking a metal liner of sufficient strength and size and then installing the storm sewer inside the liner."

"The Contractor shall size the jacking and receiving pits to accommodate construction of the drainage structures attached to the jacked pipe."

“At locations shown on the plans and as directed by the Engineer, any existing storm sewer to be abandoned that is in conflict with the proposed location of STORM SEWERS JACKED IN PLACE must be partially removed as necessary to jack the steel casing pipe into place. Removal methods must be approved by the Engineer and must be performed from within the proposed casing pipe using extreme care to prevent any settlement or other damage to CTA facilities. The precise location of the conflict between the existing pipe to be abandoned and the casing pipe to be jacked in place must be field verified prior to jacking the casing pipe. The Contractor must take precautions as directed by the Engineer to avoid any unnecessary disturbance to the existing sewer to be abandoned or the surrounding soils. The existing storm sewer must be filled with Controlled Low Strength Material in accordance with the special provision for PLUG AND ABANDON EXISTING PIPE prior to jacking the casing pipe. Any voids between the outside of the casing pipe and the surrounding soils resulting from the partial removal of a conflicting pipe must be filled with non-shrink grout or other material as approved by the engineer. Partial removal of existing storm sewers conflicting with proposed locations for STORM SEWERS JACKED IN PLACE and other associated work will not be measured or paid separately, but must be included in the cost of STEEL CASING PIPE.”

Revise Article 552.07 to include the following:

“This work will be paid for at the contract unit price per foot for STEEL CASING PIPE of the diameter specified, which price shall include all material, labor, tools, equipment, and incidentals necessary to complete the work as specified.

### **PLUG AND ABANDON EXISTING PIPE**

Description: This work consists of plugging and filling existing sewers that are to be abandoned at the locations shown on the Plans or as directed by the Engineer.

Construction Requirements: Based on a review of available information it is believed that there are no existing active connections draining into the pipe to be abandoned. However, before the pipe is abandoned, the Contractor must field verify that there are no existing active connections draining into the pipe to be abandoned. In the event there are existing active connections, the Contractor must either re-route the existing active connection or maintain the existing pipe so as not to block flow from the existing active connections at no additional cost.

After field verification that There are no existing active connections draining into the pipe to be abandoned, the Contractor must plug the pipe with Class SI Concrete or brick and suitable mortar to the satisfaction of the Engineer, and fill the remaining empty length of pipe with Controlled Low-Strength Material. The Controlled Low-Strength Material (CLSM) must meet material requirements of Recurring Special Provision Check Sheet Number 24 “Controlled Low-Strength Material (CLSM)”

Method of Measurement: The pipe to be abandoned will be measured in place, and the volume of void to be filled will be computed in cubic yards.

Basis of Payment: This work shall be paid for at the contract unit price per cubic yard, for PLUG AND ABANDON EXISTING PIPE which price is payment in full for all labor, tools, equipment, backfilling of any excavation, and materials necessary to complete this work.

## **JUNCTION CHAMBERS AND MAIN DRAIN DROP MANHOLES**

Description: This work consists of constructing junction chambers and main drain drop manholes connecting the proposed storm sewer to the existing main drain or existing drop manholes at the locations shown on the plans, or as directed by the Engineer. This work must be performed in accordance with the applicable portions of Sections 502, 503, 550, 602 and 1043 of the Standard Specifications, the details in the plans and as herein specified.

General Requirements: The Contractor is responsible for maintaining flows in all existing sewers. Prior to the start of construction at any particular site, the Contractor must submit his construction procedures for maintaining these flows to the Engineer for approval.

Construction Requirements: The Contractor must clean the main drain sewer pipe as necessary to make a secure connection. Prior to acceptance, the junction chamber or main drain drop manhole must be cleaned of all dirt and debris to the satisfaction of the Engineer.

Where junction chambers or main drain drop manholes connect to existing drop manholes, the cost of partial removal of the existing drop manhole will not be paid separately, but is included in the unit cost for JUNCTION CHAMBER and MAIN DRAIN DROP MANHOLE. Any damage to the vitrified clay lining of the hydraulic drop shaft within the existing drop manhole caused by partial removal of the drop manhole must be repaired as directed by the Engineer, this cost is included in the unit cost for JUNCTION CHAMBER and MAIN DRAIN DROP MANHOLE. Special care must be taken during construction of the junction chamber or main drain drop manhole and partial removal of the existing drop manhole to prevent foreign matter from entering the drop manhole or main drain sewer. Prior to acceptance, the junction chamber or main drain drop manhole must be cleaned of all dirt and debris to the satisfaction of the Engineer.

Existing connections to the main drain sewer which are to be abandoned as part of the Contract must be plugged from inside the pipe whenever possible. Where size restrictions prevent plugging from the inside, the Contractor must plug the pipe at the nearest upstream manhole. Existing connections to be plugged are indicated on the plans, and as directed by the Engineer.

Junction chambers or main drain drop manholes shall be backfilled in accordance with Article 502.10 of the Standard Specifications. TRENCH BACKFILL is required at the locations specified on the drainage structure schedule.

Braced Excavation Support System: It is the Contractor's responsibility to design, construct and remove a braced excavation support system for construction of the junction chambers and main drain drop manholes in accordance with the Special Provision for BRACED EXCAVATION contained elsewhere in these Special Provisions.

The braced excavation support system for all junction chambers and main drain drop manholes will be paid for separately as BRACED EXCAVATION.

### Submittals:

#### Pre-Cast Manhole Units and Lids

Prior to pre-casting any structural elements for construction of the junction chamber and main drain drop manholes, the Contractor shall submit shop drawings and details of the elements for approval by the Engineer. The drawings and details shall be signed and sealed by a licensed Structural Engineer in the State of Illinois.

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Method of Measurement: This work will be measured for payment per each JUNCTION CHAMBER or MAIN DRAIN DROP MANHOLE, completed in its entirety.

Basis of Payment: This work will be paid for at the contract unit price per each for JUNCTION CHAMBER or MAIN DRAIN DROP MANHOLE of the number designated, which price is payment in full for all labor, tools, equipment and materials necessary to complete the work as specified. This price shall include all necessary submittals; removal and disposal of any abandoned structures; removal and disposal of portions of the main drain sewer or drop manholes; all de-watering; concrete working mat; bedding materials; backfilling as specified; cast-in-place concrete; reinforcement bars; steps; pre-cast elements; manhole barrels, cones and flat slab tops; frames, lids and adjusting rings; all cleaning, including existing and proposed sewers; and all plugging of abandoned connections.

(EK 6/21/05)

### **DRAINAGE STRUCTURES TO BE CLEANED**

Description. This item shall consist of the cleaning of existing drainage structures at the locations indicated on the Plans and as directed by the Engineer.

All existing drainage structures which are identified to be cleaned on the Plans or directed to be cleaned by the Engineer shall be cleaned in accordance with Article 602.14 of the Standard Specifications. These drainage structures must be cleaned within 7 calendar days of the date when all traffic is shifted onto the local lanes in the vicinity of each drainage structure.

Basis of Payment. This work will be paid for at the contract unit price each for DRAINAGE STRUCTURES TO BE CLEANED.

(BBA 11/18/04)

### **DRAINAGE STRUCTURES, TYPE 1 SPECIAL WITH TWO TYPE 20 FRAME AND GRATES**

### **DRAINAGE STRUCTURES, TYPE 2 SPECIAL WITH TWO TYPE 22 FRAME AND GRATES**

Description. This work shall consist of furnishing and constructing DRAINAGE STRUCTURES, of the specified type, with the specified frames and grates, at the locations indicated on the plans and as directed by the Engineer.

This work shall be performed in accordance with the applicable portions of Section 602 of the Standard Specifications and IDOT Highway Standard 602101 except the drainage structure must be constructed such that the top of the structure is placed at an elevation suitable for both the proposed express lane pavement and the proposed local lane pavement in accordance with the IDOT District 1 Standard Detail BD-31, DRAINAGE STRUCTURES TYPE 1A, 2A, AND 3A; TYPE 1A (SPECIAL), TYPE 2A (SPECIAL), AND TYPE 3A (SPECIAL). The Schedule of Proposed Drainage Structures given in the plans provides individual rim elevations for these drainage structures on both the express lane side and local lane side of the proposed barrier wall. Each drainage structure must be constructed so that the top of concrete or top of the structure is at the correct elevation for the casting on the lower side of the barrier wall, as given in the schedule, and use adjusting rings as necessary and as approved by the Engineer to place the casting on the high side of the barrier wall at the correct elevation, as given in the schedule.

Basis of Payment. This work will be paid for at the contract unit price per each for DRAINAGE STRUCTURES, TYPE 1 SPECIAL WITH TWO TYPE 20 FRAME AND GRATES and DRAINAGE STRUCTURES, TYPE 2 SPECIAL WITH TWO TYPE 22 FRAME AND GRATES, which price shall be payment in full for all work and materials as described herein, on the plans and as directed by the Engineer to deliver and construct the drainage structures and associated castings. Adjusting rings as necessary to place the higher casting at the correct elevation shall not be measured separately but shall be included in the unit cost per each for DRAINAGE STRUCTURES, TYPE 1 SPECIAL WITH TWO TYPE 20 FRAME AND GRATES and DRAINAGE STRUCTURES, TYPE 2 SPECIAL WITH TWO TYPE 22 FRAME AND GRATES.

(BBA 06/28/05)

### **FURNISH TEMPORARY CONCRETE BARRIER**

Description. This work shall consist of furnishing and placing temporary concrete barrier at locations shown on the plans or as directed by the Engineer.

It will be the Contractor's responsibility to maintain the temporary concrete barrier until maintenance and possession of the barrier wall is transferred to Contract 62303 on 2/28/07.

This work shall be performed, measured and paid for in accordance with the BDE Special Provision for Temporary Concrete Barrier with the following revisions:

**704.03 General.** The temporary concrete barrier will remain after the contract is complete.

Method of Measurement: Furnish temporary concrete barrier wall will be measured for payment in feet in place along the centerline of the barrier.

Basis of Payment. Temporary concrete barrier as specified herein will be paid for at the contract unit price per foot for FURNISH TEMPORARY CONCRETE BARRIER.

### **TEMPORARY INFORMATION SIGNING**

Description. This work shall consist of furnishing, installing, maintaining, relocating for various stages of construction and eventually removing temporary informational signs. Included in this item may be ground mount signs, signs on temporary stands, 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:

	<u>Item</u>	<u>Article/Section</u>
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.

Installation. The sign sizes and legend sizes shall be verified by the Contractor prior to fabrication.

Signs which are placed along the expressway shoulder and/or within the construction zone shall be installed according to the requirements of Article 702.05 and Article 720.04. The signs shall be 2.1m (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 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 Contractors operations shall be repaired or signs replaced, as determined by the Engineer, at the Contractors expense.

Signs which are placed on overhead bridge structures shall be fastened to the handrail with stainless steel bands. These signs shall rest on the concrete parapet where possible. The Contractor shall furnish mounting details for approval by the Engineer.

Method Of Measurement. This work shall be measured for payment in square meters (square feet) edge to edge (horizontally and vertically).

All hardware, posts, supports, bases for ground mounted signs, connections, which are required for mounting these signs will be included as part of this pay item.

Basis of Payment. This work shall be paid for at the contract unit price per square meter (square feet) for TEMPORARY INFORMATION SIGNING, which price shall be full compensation for all labor, equipment and materials required for performing the work as herein specified.

## **BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)**

Description. This item of work shall consist of removal of the existing variable depth bituminous surface over the shoulders of the existing MWRD culvert as shown on the plans or as directed by the Engineer. The work shall be performed in accordance to the applicable portions of Section 440 of the Standard Specifications.

General. The existing variable depth bituminous surface generally varies between 5 inches and 2 inches. It shall be the responsibility of the Contractor to determine the thickness of the existing surface. No additional compensation will be allowed because of variations of thickness.

The Contractor's removal methods shall be submitted to the Engineer for approval before the start of work. The contractor shall be aware that any work around and over the MWRD culvert shall not damage components of the culvert to remain. Removal methods that are found to cause damage to the MWRD culvert shall be ceased and alternate methods provided at no additional cost.

The removal of any material beyond the limits established will not be measured or paid for and the replacement of material removed shall be as directed by the Engineer at the expense of the Contractor.

Method of Measurement. This item of work will be measured for payment in place and the area computed in square yards.

Basis of Payment. This item of work will be paid at the contract unit price per square yard for BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH) which shall be compensation in full for removing and properly disposing the bituminous surface and for furnishing all labor, equipment, tools and incidentals necessary to complete the work as specified.

Removal of the bituminous surface over the traffic lanes of the culvert will be measured and paid for as BITUMINOUS SURFACE REMOVAL, 5”.

### **PIPE UNDERDRAIN REMOVAL**

Description: This work shall consist of the complete removal and satisfactory disposal of pipe underdrains at locations shown on the plans

Method of Measurement: Pipe underdrains removed will be measured for payment in feet, as removed.

Basis of Payment: This work shall be paid for at the contract unit price per foot for PIPE UNDERDRAIN REMOVAL, which price shall include all excavation, and removing and disposing of the pipe.

### **APPROACH SLAB REMOVAL**

Description. This work shall consist of the complete removal and disposal of the existing approach slabs at the MWRD culvert within the limits shown on the plans or as directed by the Engineer. All existing approach slab pavement, bituminous overlays, reinforcing bars and sleeper slabs shall be removed in accordance with Sections 440 and 501 of the Standard Specifications.

This work shall also include the removal of any mud jack cylinders encountered within the existing approach slabs.

It shall be the responsibility of the Contractor to determine the thickness of the existing approach slab pavement structure, including overlays and other appurtenances to be removed and the extent of which they are reinforced. No additional compensation will be allowed because of variations in thickness and reinforcement present.

Any excavation made by the Contractor below that required for new approach pavement or sleeper slab shall be replaced. The excavated space shall be filled with material satisfactory to the Engineer and placed in accordance with Section 205 of the Standard Specifications at the expense of the Contractor.

Method of Measurement. Approach slab removal will be measured for payment in place and the area computed in square yards.

Basis of Payment. This work shall be paid for at the contract unit price per square yard for APPROACH SLAB REMOVAL, which shall include all labor, materials and equipment necessary to remove and dispose of the entire approach slab.

## **CONCRETE SLAB HYDRO-DEMOLITION**

Description. This work shall consist of the careful removal of the top portion and preparation of the existing concrete top slab of the MWRD culvert as shown on the plans and as directed by the Engineer.

Submittals. The Contractor will be required to submit to the Engineer for review and approval the methods to be utilized in removing the existing concrete to the depth specified on the plans. The plans identify a suggested sequence of operations, but it is the Contractor's responsibility to outline a sequence in the removal submittal. The following information shall be provided by the Contractor:

1. Equipment specifications for all equipment proposed to be utilized by the Contractor including size and weight. For hydro-demolition equipment the supply water requirements and water consumption shall also be provided.
2. Location and layout of any temporary water supply including materials to be used and any permits required to secure the use of water.
3. Vacuum system including type, manufacture, capacities and filtration systems.
4. Location and layout of the system to treat the wastewater.
5. Certification of the hydro-demolition operator's qualifications.
6. Sequence of operations.

The Contractor is directed to the fact the portion of the existing slab to remain is intended to be utilized as a stay-in-place form for the new top slab and has the capacity to support its self weight, the weight of the wet concrete or a nominal 200 psf construction load.

By using the Hydro-Scarification method the Contractor shall use extreme caution in removing the existing concrete up to the limits/depth shown in the plans and also in preparing and placing the new concrete to ensure the integrity of the existing slab.

Equipment. The surface preparation equipment shall be subject to the approval of the Engineer, according to the applicable portions of Section 1100 and the following:

1. Sawing Equipment. Sawing equipment shall be a concrete saw capable of sawing concrete to the specified depth.
2. Mechanical Blast Cleaning Equipment. Mechanical blast cleaning may be performed by high-pressure waterblasting or shotblasting. Mechanical blast cleaning equipment shall be capable of removing weak concrete at the surface, including the microfractured concrete surface layer remaining as a result of mechanical scarification, and shall have oil traps.

Mechanical high-pressure waterblasting equipment shall be mounted on a wheeled carriage and shall include multiple nozzles mounted on a rotating assembly. The distance between the nozzles and the deck surface shall be kept constant and the wheels shall maintain contact with the deck surface during operation.

3. Hand-Held Blast Cleaning Equipment. Blast cleaning using hand-held equipment may be performed by high-pressure waterblasting or abrasive blasting. Hand-held blast cleaning equipment shall have oil traps.

Hand-held high-pressure waterblasting equipment that is used in areas inaccessible to mechanical blast cleaning equipment shall have a minimum pressure of 48 MPa (7,000 psi).

4. Hydro-Demolition Equipment. The hydro-demolition equipment shall consist of filtering and pumping units operating with a remote-controlled robotic device. The equipment shall use potable water according to Section 1002. Operation of the equipment shall be performed and supervised by qualified personnel certified by the equipment manufacturer. Evidence of certification shall be presented to the Engineer. The equipment shall be capable of removing concrete to the specified depth and be capable of removing rust and old concrete particles from exposed reinforcement bars. The hydro-demolition equipment shall be calibrated before being used and shall operate at a uniform pressure sufficient to remove the specified depth of concrete in a timely manner.
5. Vacuum Equipment. The vacuum system shall be connected directly to the hydro-demolition robot and shall remove 98% of the water from the hydro-demolition robot during the hydro-demolition process. The vacuum equipment shall be capable of removing wet debris and water. Water collected during the vacuuming operation shall be discharged to the Contractor's wastewater collection system. Vacuum equipment shall be of sufficient capacity to collect all hydro-demolition concrete debris no later than two hours following the hydro-demolition equipment.
6. Power-Driven Hand Tools. Power-driven hand tools will be permitted including jackhammers lighter than the nominal 20 kg. (45 lb) class. Jackhammers or chipping hammers shall not be operated at an angle in excess of 45 degrees measured from the surface of the slab.

Construction Requirements. Sidewalks, curbs, drains, reinforcement and/or existing transverse and longitudinal joints which are to remain in place shall be protected from damage during removal and cleaning operations. All damage caused by the Contractor shall be corrected, at the Contractor's expense, to the satisfaction of the Engineer.

| The Engineer shall approve the location from which the Contractor obtains potable water. The Contractor is responsible for supplying all material, equipment and tools necessary to tap into the water source and for securing any necessary permits.

Wastewater containment shall be the sole responsibility of the Contractor. All equipment needed, including piping, pumps, hoses, settling areas and pH adjustment equipment (if needed) required for the proper collection, clean up and disposal of wastewater from the work area shall be provided and maintained by the Contractor. The system shall be designated by the Contractor and approved by the Engineer to meet the requirements of the Department and the approved Storm Water Pollution Prevention Plan. The Contractor shall obtain any permits required for the discharge of the wastewater.

The concrete removal work shall consist of removing the designated concrete slab surface using hydro-demolition equipment. The areas designated shall be removed uniformly to the depth as specified on the plans. In areas of the slab not accessible to the scarifying equipment, power-driven hand tools will be permitted. Power driven hand tools shall be used for removal around areas to remain in place.

A trial section on the existing deck surface will be designated by the Engineer to demonstrate that the equipment, personnel and methods of operation are capable of producing results satisfactory to the Engineer. The trial section will consist of approximately 3 sq m (30 sq ft).

Once the settings for the equipment are established, they shall not be changed without the permission of the Engineer. The removal shall be verified, as necessary, at least every 2.5 m (8 ft) along the cutting path. If concrete is being removed below the desired depth, the equipment shall be reset or recalibrated.

If the use of hydro-scarification equipment is specified, the Contractor may use mechanical scarification equipment to remove an initial depth of concrete provided that the last 13 mm ( $\frac{1}{2}$  in.) of removal is accomplished with hydro-scarification equipment. If the Contractor's use of mechanical scarifying equipment results in exposing, snagging, or dislodging the top mat of reinforcing steel, the scarifying shall be stopped immediately and the remaining removal shall be accomplished using the hydro-scarification equipment. All damage to the existing reinforcement resulting from the Contractor's operation shall be repaired or replaced at the Contractor's expense as directed by the Engineer. Replacement shall include the removal of any additional concrete required to position or splice the new reinforcing steel. Undercutting of exposed reinforcement bars shall only be as required to replace or repair damaged or corroded reinforcement. Repairs to existing reinforcement shall be according to the Special Provision for "Deck Slab Repair".

Exposed reinforcement bars shall be free of dirt, detrimental scale, paint, oil, and other foreign substances which may reduce bond with the concrete. A tight non-scaling coating of rust is not considered objectionable. Loose, scaling rust shall be removed by rubbing with burlap, wire brushing, blast cleaning or other methods approved by the Engineer. All loose reinforcement bars, as determined by the Engineer, shall be retied at the Contractor's expense.

After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required. Reinforcing bars that have been cut or have lost 25 percent or more of their original cross sectional area shall be supplemented by new in-kind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. An approved "squeeze type" mechanical bar splicer capable of developing in tension at least 125 percent of the yield strength of the existing bar shall be used when it is not feasible to provide the minimum bar lap. No welding of bars will be permitted. The furnishing and replacing of supplemental reinforcement bars shall be included in this item.

All dust, concrete fines, debris, including water, resulting from the surface preparation shall be confined and shall be immediately and thoroughly removed from all areas of accumulation. The Contractor shall remove daily from the site all concrete debris, sludge and other materials generated by his work and legally dispose of all such materials.

When the existing concrete in the top slab has been removed due to hydro-scarification below the specified depth and when partial or full depth repairs are necessary on the slab, the size, location and extent must be evaluated to determine if shoring must be placed under a portion of the slab until the repairs concrete has obtained the required load capacity.

Any removal required, or made below the specified depth due to hydro-scarification shall be included in the pay item for CONCRETE SLAB HYDRO-DEMOLITION and any repairs required to the slab shall be included in the pay item for CONCRETE SUPERSTRUCTURE.

Inspection of Exposed Surfaces. After removals are complete, but prior to final cleaning, all exposed concrete surfaces and all reinforcement designated to remain in place will be inspected by the Engineer for compliance with the plans. Where the Engineer finds unsatisfactory surface preparation, the Contractor will be directed to perform additional removals and/or cleaning. Removal operations shall not cease until the Engineer has approved the surface preparation.

Method of Measurement. The area of the concrete removal on the top slab of the culvert will be measured for payment in square yards. No additional payment will be made for multiple passes of the equipment required to achieve the specified removal depth.

In measuring the volume of concrete for the new concrete slab, no measurement shall be made for the surface profile resulting from removal operations.

Basis of Payment. This item of work will be paid for at the contract unit price per square yards for CONCRETE SLAB HYDRO-DEMOLITION, which price shall include full compensation for all required submittals and permits (including any required MWRD permits), the removal of the existing concrete (independent of the actual methods utilized), disposal of all concrete and wastewater and cleaning and preparation of the existing concrete surface and reinforcement bars and for furnishing all materials, tools, equipment and labor necessary to complete this item of work as shown on the plans or as directed by the Engineer.

## **TEMPORARY CTA BALLAST RETENTION**

Description. This item of work shall consist of providing a temporary ballast retention system to retain the CTA ballast from the work area over the length of MWRD culvert as shown on the Plans or as directed by the Engineer.

General. The plans show a suggested ballast retention scheme, however, it shall be the Contractor's responsibility to design any ballast retention system. The Contractor shall submit drawings and supporting calculations of the intended retention system for review and approval by the Engineer, CTA and MWRD. All items submitted shall be sealed by a Illinois Licensed Structural Engineer. The retention scheme shall be submitted 30 working days prior to the start of the Contractor's operations. The submittal shall follow the requirements outlined in Article 105.04 of the Standard Specifications.



Basis of Payment. This item of work will be paid for at the contract lump sum price for TEMPORARY CTA BALLAST RETENTION which price shall include full compensation for furnishing, installing, and subsequently removing and disposing of the approved retention system, for any and all excavating, furnishing, placing and/or reshaping CTA ballast, all necessary submittals and approvals, and furnishing all labor, tools and equipment necessary to complete this item of work.

The Contractor agrees that if excavation of the ballast can be made within the requirements outlined in the plans, no payment for this item will be made.

### **SUPER-HIGH EFFICIENCY FULL CUBE RETROREFLECTIVE SHEETING**

**Description:** This work shall consist of providing and applying flexible colored Super-High Efficiency Full Cube Retroreflective Sheeting (DG cubed Series 4000, ASTM XI sheeting) or equivalent sheeting to all type 3 sign panels. The sheeting shall consist of full cube prismatic lens elements with a distinctive interlocking diamond seal pattern visible from the face of a smooth surface. The work shall be done in accordance with this special provision, the applicable portions of Section 720 and Section 1091 of the Standard Specifications and/or as directed by the Engineer.

**Materials:** The sheeting color shall conform to the latest appropriate standard color tolerance chart issued by the U.S. Department of Transportation, Federal Highway Administration and to the daytime color requirements of ASTM D 4956.

The retroreflective sheeting shall have the minimum brightness values shown in Table 1 (below) for the type and color of material specified. The reflective intensity shall be determined by the procedures described in ASTM E 810.

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In determining the Coefficient of Retroreflection the observation angles shall be 0.2°, 0.5°, 1.0° and the entrance angles shall be -4° and 30°.

Table I – Extracted from ASTM D 4956 Proposed Type XI  
 Minimum Coefficient of Retroreflection  
 (cd/lux/m<sup>2</sup>)

White	-4	30
0.2	570	215
0.5	400	150
1.0	120	45

Blue	-4	30
0.2	45	28
0.5	32	16
1.0	9	6

Yellow	-4	30
0.2	425	160
0.5	300	112
1.0	90	34

FYG	-4	30
0.2	455	170
0.5	320	120
1.0	96	36

Red	-4	30
0.2	114	43
0.5	80	30
1.0	24	9

FY	-4	30
0.2	340	130
0.5	240	90
1.0	72	27

Green	-4	30
0.2	57	21
0.5	40	15
1.0	12	4.5

FO	-4	30
0.2	200	75
0.5	140	52
1.0	42	16

The reflective sheeting shall be processed and applied directly to properly prepared sign bases according to the sheeting manufacturer's recommended procedures. The reflective material shall be weather resistant and, following cleaning, shall show no appreciable discoloration, cracking, crazing, blistering, or dimensional change and shall meet the requirements shown in the above table when exposed to the corresponding hours of accelerated weathering as described under Testing.

The sheeting shall comply with the requirements contained in ASTM D 4956-04 sections 6.6, 6.8 and 6.9 for shrinkage, liner removal and adhesion and with the supplementary requirements contained in section S1 of ASTM D 4956-04 for fungus resistance.

Testing: The sheeting shall be applied to test panels in accordance with ASTM D 4956-04, section 7.2 and the test conditions shall conform to ASTM D 4956-04 section 7.1. Three samples of retroreflective sheeting applied to test panels and conditioned in accordance with ASTM testing procedures shall each first have their photometric properties characterized by measuring the coefficients of retroreflection in accordance with ASTM E 810 at all test geometries shown in Table I. These panels shall then be exposed in an air circulating oven at  $160 \pm 5^{\circ}\text{F}$  ( $71 \pm 3^{\circ}\text{C}$ ) for a period of 24 hours. After exposure the panels shall be allowed to condition according to the provisions. These panels will again be characterized for photometric properties by measuring the coefficients of retroreflection at all test geometries measured before exposure. The coefficients of retroreflection measured after exposure shall be between 85% and 115% of the values measured before exposure for each of the three samples.

The retroreflective sheeting shall be designed to work in concert with recommended imaging systems. Color processing with compatible transparent and opaque process colors shall be possible in accordance with the sheeting manufacturer's recommendation at temperatures of  $60^{\circ}$  to  $100^{\circ}\text{F}$  ( $16^{\circ}$  to  $38^{\circ}\text{C}$ ) and relative humidity of 20% to 80%. The sheeting shall be heat resistant and permit force curing without staining of applied or unapplied sheeting at temperatures recommended by the sheeting manufacturer.

**Certification:** The Contractor shall provide certification from an independent testing laboratory approved by the Department stating that the material to be furnished meets the requirements here specified and per the requirements of Section 1091.02 of the Standard Specifications. The sheeting manufacturer shall also submit with each lot or shipment, a certification that states the material supplied will meet all the requirements listed herein. In addition, the sheeting manufacturer shall guarantee their product in accordance with the following field performance requirements and replacement obligations:

**FIELD PERFORMANCE REQUIREMENTS AND REPLACEMENT OBLIGATIONS:** Sheeting manufactured of standard colors and processed and applied to sign blank materials in accordance with sheeting manufacturer's recommendations, shall perform effectively for at least 12 years. The retroreflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retroreflection is less than the minimum specified for that sheeting during that period listed.

80% of values listed in Table I up to 7 years and

70% of values listed in Table I up to 12 years

Where it can be shown that retroreflective signs, supplied and used according to the sheeting manufacturer's recommendations, have not met these performance requirements, the sheeting manufacturer shall cover restoration costs as follows for sheeting shown to be unsatisfactory during:

1. The first seven years - The sheeting manufacturer will cover the cost of restoration of the sign surface to its original effectiveness at no cost to the Department for materials and labor.
2. The entire 12 years - The sheeting manufacturer will replace the sheeting required to restore the sign surface to its original effectiveness.

All measurements shall be made after the signs are cleaned according to the sheeting manufacturer's recommendations

**General:** The Department also reserves the right to inspect any completed sign face and reject any or all signs if the inspection indicates failure to meet these specifications.

All signs shall be fabricated such that the copy or text is applied in the preferred orientation for maximum angularity per the sheeting manufacturer's recommendations. The background sheeting and the legend shall be of compatible material provided by the same manufacturer. The legend should be direct applied to extrusions and bid accordingly.

The Contractor shall place the date on each sign that the sheeting is applied in accordance with Article 720.03 of the Standard Specifications, or as directed by the Engineer. This date shall constitute the start of the field performance obligation period.

**Basis of Payment:** The Super-High Efficiency Full Cube Retroreflective Sheeting will not be measured or paid for separately but is considered included as part of the pay item for SIGN PANEL, TYPE 3. All necessary requirements for the sheeting, as outlined above, shall be included in the contract unit price per square meter (square foot) for SIGN PANEL, TYPE 3.

(District 1 05/10/05)

## **GENERAL ELECTRICAL REQUIREMENTS**

Effective: March 1, 2003

Add the following to Article 801 of the Standard Specifications:

“Maintenance Transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. NOTE THAT THE CONTRACTOR SHALL BE ENTITLED TO ONLY ONE REQUEST FOR LOCATION MARKING OF EXISTING SYSTEMS AND THAT MULTIPLE REQUESTS MAY ONLY BE HONORED AT THE CONTRACTOR'S EXPENSE. NO LOCATES WILL BE MADE AFTER MAINTENANCE IS TRANSFERRED, UNLESS IT IS AT THE CONTRACTOR'S EXPENSE.

Condition of Existing Systems. The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts, which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits, which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition."

Delete the last paragraph of Article 801.06 of the Standard Specifications.

Revise the 7<sup>th</sup> and 8<sup>th</sup> paragraphs of Article 801.08 of the Standard Specifications to read:

"Engineer's Stamp. 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.

Resubmittals. All submitted items reviewed and marked 'APPROVED AS NOTED', or 'DISAPPROVED' are to be resubmitted in their entirety with a disposition of previous comments to verify contract compliance at no additional cost to the state unless otherwise indicated within the submittal comments."

Revise Article 801.12 of the Standard Specifications to read:

“Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance the of existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein.”

Add the following to Section 801.12 of the Standard Specifications:

“Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting, which remains in service, will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.”

Add the following to Section 801 of the Standard Specifications:

“Splicing of Lighting cables. Splices above grade, such as in poles and junction boxes, shall have a waterproof sealant and a heat-shrinkable plastic cap. The cap shall be of a size suitable for the splice and shall have a factory-applied sealant within. Additional seal of the splice shall be assured by the application of sealant tape or the use of a sealant insert prior to the installation of the cap. Either method shall be assured compatible with the cap sealant. Tape sealant shall be applied in not less than one half-lapped layer for a length at least 6.35 mm (1/4-inch) longer than the cap length and the tape shall also be wrapped into the crotch of the splice. Insert sealant shall be placed between the wires of the splice and shall be positioned to line up flush or extend slightly past the open base of the cap.

Lighting Cable Identification. Each wire installed shall be identified with its complete circuit number at each termination, splice, junction box or other location where the wire is accessible.

Lighting Cable Fuse Installation. Standard fuse holders shall be used on non-frangible (non-breakaway) light pole installations and quick-disconnect fuse holders shall be used on frangible (breakaway) light pole installations. Wires shall be carefully stripped only as far as needed for connection to the device. Over-stripping shall be avoided. An oxide inhibiting lubricant shall be applied to the wire for minimum connection resistance before the terminals are crimped-on. Crimping shall be performed in accordance with the fuse holder manufacturer's recommendations. The exposed metal connecting portion of the assembly shall be taped with two half-lapped wraps of electrical tape and then covered by the specified insulating boot. The fuse holder shall be installed such that the fuse side is connected to the pole wire (load side) and the receptacle side of the holder is connected to the line side.

Grounding of Lighting Systems. All electrical systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC, even though every detail of the requirements is not specified or shown. Good ground continuity throughout the electrical system shall be assured. All electrical circuit runs shall have a continuous equipment-grounding conductor. IN NO CASE SHALL THE EARTH BE CONSIDERED AS AN ADEQUATE EQUIPMENT GROUNDING PATH. Where connections are made to painted surfaces, the paint shall be scraped to fully expose metal at the connection point and serrated connectors or washers shall be used. Where metallic conduit is utilized as the equipment-grounding conductor, extreme care shall be exercised to assure continuity at joints and termination points. No wiring run shall be installed without a suitable equipment ground conductor. Where no equipment ground conductor is provided for in the plans and associated specified pay item, the Contractor is obligated to bring the case to the attention of the Engineer who will direct the Contractor accordingly. Work, which is extra to the contract, will be paid extra. All connections to ground rods, structural steel, reinforcing steel or fencing shall be made with exothermic welds. Where such connections are made to insulated conductors, the connection shall be wrapped with at least 4 layers of electrical tape extended 152.4 mm (six inches) onto the conductor insulation. Where a ground field of "made" electrodes is provided, the exact locations of the rods shall be documented by dimensioned drawings as part of the Record Drawings. Equipment ground wires shall be bonded, using a splice and pigtail connection, to all boxes and other metallic enclosures throughout the wiring system.

Lighting Unit Identification. Each pole, light tower and underpass light shall be labeled as indicated in the plans to correspond to actual circuiting, and as designated by the Engineer. They shall be installed by the Contractor on each lighting unit pole shaft and on the underpass walls, or piers, as shown in the details. Median-mounted poles shall have two sets of identification labeling oriented to allow visibility from travel in either direction. Lighting Controllers shall also be identified by means identification decals as described herein. Identification shall be in place prior to placing the equipment in service. Identification of weathering steel poles shall be made by application of letters and numerals as specified herein to an appropriately sized 3.175 mm (1/8-inch) thick stainless steel plate, which shall be banded, to the pole with two stainless steel bands. Identification of painted poles shall be made by application of letters and numerals as specified herein via an adhesive approved by the paint manufacturer for the application. Identification of luminaires, which are not pole mounted, such as underpass luminaires, shall be done using identification brackets. In general, the brackets shall be mounted adjacent to and within one foot of their respective luminaires. The brackets shall be fabricated from 3.175 mm (one-eighth (1/8)) inch aluminum alloy sheet according to the dimensions shown on the plans. The bracket shall be bent so as to present the luminaire identification numbers at a sixty (60) degree angle to the wall. The bracket shall be attached to concrete walls with three (3) 6.35 mm (1/4 inch), self drilling, snap-off type galvanized steel concrete anchors set flush with the wall, or power driven fasteners approved by the Engineer. The brackets shall be offset from the wall with 12.7 mm (1/2") aluminum bushings. The structural steel shall not be drilled to attach the brackets. The luminaire identification numbers shall be applied to the bracket using the method described for identification applied to poles.

**GROUND ROD**

Effective: January 1, 2002

**Description.** This item shall consist of furnishing, installing and connecting ground rods for the grounding of service neutral conductors and for supplementing the equipment grounding system via connection at poles or other equipment throughout the system. All materials and work shall be in accordance with Article 250 of the NEC.

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

Item	Article/Section
(a) Ground Rod.....	1087.01(b)
(b) Copper Ground Wire.....	1087.01(a)
(c) Access Well.....	1087.01(c)

**CONSTRUCTION REQUIREMENTS**

**General.** All connections to ground rods, structural steel or fencing shall be made with exothermic welds. Where such connections are made to insulated conductors, the connection shall be wrapped with at least 4 layers of electrical tape extended 152.4 mm (six inches) onto the conductor insulation.

Ground rods shall be driven so that the tops of the rod are 609.6 mm (24 inches) below finished grade. Where indicated, ground wells shall be included to permit access to the rod connections.

Where indicated, ground rods shall be installed through concrete foundations.

Where ground conditions, such as rock, preclude the installation of the ground rod, the ground rod may be deleted with the approval of the Engineer.

Where a ground field of "made" electrodes is provided, such as at control cabinets, the exact locations of the rods shall be documented by dimensioned drawings as part of the Record Drawings.

Ground rod connection shall be made by exothermic welds. Ground wire for connection to foundation steel or as otherwise indicated shall be stranded uncoated bare copper in accordance the applicable requirements of ASTM Designation B-3 and ASTM Designation B-8 and shall be included in this item. Unless otherwise indicated, the wire shall not be less than No. 2 AWG.

Where connections are made to epoxy coated reinforcing steel, the epoxy coating shall be sufficiently removed to facilitate the exothermic weld.

**Method Of Measurement.** Ground rods shall be counted, each. Ground wires and connection of ground rods at poles shall be included in this pay item.

**Basis Of Payment.** This item shall be paid at the contract unit price each for **GROUND ROD**, of the diameter and length indicated which shall be payment in full for the material and work described herein.



## **UNDERGROUND RACEWAYS**

Effective: January 1, 2002

Revise Article 810.03 of the Standard Specifications to read:

“Installation. All underground conduit shall have a minimum depth of 700 mm (30-inches) below the finished grade.”

Add the following to Article 810.03 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Metal Conduit unless otherwise indicated on the plans.”

## **TRENCH AND BACKFILL FOR ELECTRICAL WORK**

Effective: January 1, 2002

Revise the first sentence of Article 815.03(a) of the Standard Specifications to read:

“Trench. Trenches shall have a minimum depth of 912 mm (36 in.) or as otherwise indicated on the plans, and shall not exceed 300 mm (12 in.) in width without prior approval of the Engineer.”

Revise Article 1066.05 of the Standard Specifications to read:

**“Underground Cable Marking Tape.** The tape shall be 150 mm (6 in.) wide; consisting of 0.2 mm (8 mil) polyethylene according to ASTM D882, and ASTM D2103.

The tape shall be red with black lettering or red with silver lettering reading “CAUTION – ELECTRICAL LINE BURIED BELOW”.

The tape shall have reinforced metallic detection capabilities consisting of a woven reinforced polyethylene tape with a metallic core or backing.”

## **WIRE AND CABLE**

Effective: January 1, 2002

Revise the second sentence of the first paragraph of Article 1066.02(a) to read:

“The cable shall be rated at a minimum of 90°C dry and 75°C wet and shall be suitable for installation in wet and dry locations, and shall be resistant to oils and chemicals.”

Revise the second paragraph of Article 1066.02(b) to read:

“Uncoated conductors shall be according to ASTM B3, ICEA S-95-658/NEMA WC70, and UL Standard 44. Coated conductors shall be according to ASTM B 33, ASTM B 8, ICEA S-95-658/NEMA WC70 and UL Standard 44.”

Revise the third paragraph of Article 1066.02(b) to read:

“All conductors shall be stranded. Stranding meeting ASTM B 8, ICEA S-95-658/NEMA WC70 and UL Standard 44. Uncoated conductors meeting ASTM B 3, ICEA S-95-658/NEMA WC70 and UL Standard 44.”

Revise the first sentence of Article 1066.03(a)(1) to read:

“General. Cable insulation designated as XLP shall incorporate cross-linked polyethylene (XLP) insulation as specified and shall meet or exceed the requirements of ICEA S-95-658, NEMA WC70, U.L. Standard 44.”

Add the following to Article 1066.03(a)(1) of the Standard Specifications:

“The cable shall be rated 600 volts and shall be UL Listed Type RHH/RHW/USE.”

Revise the Aerial Electric Cable Properties table of Article 1066.03(a)(3) to read:

Aerial Electric Cable Properties

Phase Conductor		Messenger wire			
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1
4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1
3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

Revise the first paragraph of Article 1066.03(b) to read:

“EPR Insulation. Cable insulation shall incorporate ethylene propylene rubber (EPR) as specified and the insulation shall meet or exceed the requirements of ICEA S-95-658, NEMA Standard Publication No. WC70, and U.L. Standard 44, as applicable.”

Add the following to Article 1066.03(b) of the Standard Specifications:

“Cable sized No. 2 AWG and smaller shall be U.L. listed Type RHH/RHW and may be Type RHH/RHW/USE. Cable sized larger than No. 2 AWG shall be U.L. listed Type RHH/RHW/USE.”

Revise Article 1066.04 to read:

“Aerial Cable Assembly. The aerial cable shall be an assembly of insulated aluminum conductors according to Section 1066.02 and 1066.03. Unless otherwise indicated, the cable assembly shall be composed of three insulated conductors and a steel reinforced bare aluminum conductor (ACSR) to be used as the ground conductor. Unless otherwise indicated, the code word designation of this cable assembly is “Palomino”. The steel reinforced aluminum conductor shall conform to ASTM B-232. The cable shall be assembled according to ANSI/ICEA S-76-474.”

Revise the second paragraph of Article 1066.05 to read:

“The tape shall have reinforced metallic detection capabilities consisting of a woven reinforced polyethylene tape with a metallic core or backing.”

Revise Article 1066.08 to read:

“Electrical Tape. Electrical tape shall be all weather vinyl plastic tape resistant to abrasion, puncture, flame, oil, acids, alkalis, and weathering, conforming to Federal Specification MIL-I-24391, ASTM D1000 and shall be listed under UL 510 Standard. Thickness shall not be less than 0.215 mm (8.5 mils) and width shall not be less than 20 mm (3/4-inch).”

## **LUMINAIRE**

Effective: March 1, 2003

Add the following to first paragraph of Article 1067.01(a)(3) of the Standard Specifications:

“The reflector shall not be altered by paint or other opaque coatings which would cover or coat the reflecting surface. Control of the light distribution by any method other than the aforementioned clear protective coating that will alter the reflective properties of the reflecting surface is unacceptable”

Add the following to Article 1067.01(a)(5) a. of the Standard Specifications:

“The ballast shall be a High Pressure Sodium, high power factor, constant wattage auto-regulator, lead type (CWA) for operation on a nominal 240 volt system.”

Revise the second sentence of the second paragraph of Article 1067.01(a)(5)c. of the Standard Specifications:

“The ballast shall be designed to ANSI Standards and shall be designed and rated for operation on a nominal 240 volt system. The ballast shall provide positive lamp ignition at the input voltage of 216 volts. It shall operate the lamp over a range of input voltages from 216 to 264 volts without damage to the ballast. It shall provide lamp operation within lamp specifications for rated lamp life at input design voltage range. Operating characteristics shall produce output regulation not exceeding the following values:

Nominal Ballast Wattage	Maximum Ballast Regulation
750	25%
400	25%
310	26%
250	22%
150	22%

For this measure, regulation shall be defined as the following:

$$\text{Ballast Regulation} = \frac{W_{LampH} - W_{LampL}}{W_{LampN}} \times 100$$

where:

$W_{LampH}$  = lamp watts at +10% line voltage (264v)

$W_{LampL}$  = lamp watts at - 10% line voltage (216v)

$W_{lampN}$  = lamp watts at 240v”

Revise the third sentence of the second paragraph of Article 1067.01(a)(5) c. of the Standard Specifications to read:

“Ballast losses, based on cold bench tests, shall not exceed the following values:

Nominal Ballast Wattage	Maximum Ballast Losses
750	16.0%
400	16.0%
310	19.0%
250	17.5%
150	26.0%

Ballast losses shall be calculated based on input watts and lamp watts at nominal system voltage as indicated in the following equation:

$$\text{Ballast Losses} = \frac{W_{Line} - W_{Lamp}}{W_{Lamp}} \times 100$$

where:

$W_{line}$  = line watts at 240v

$W_{lamp}$  = lamp watts at 240v

Add the following to Article 1067.01(a)(5)c. of the Standard Specifications:

“Ballast output to lamp. At nominal system voltage and a lamp voltage of 100v, the ballast shall deliver a lamp wattage within  $\pm 2\%$  of the nominal lamp wattage. Example: *For a 400w luminaire, the ballast shall deliver 400 watts  $\pm 2\%$  at a lamp voltage of 100v for the nominal system voltage of 240v.*”

Add the following to Article 1067.01(a)(5)c. of the Standard Specifications:

“Ballast output over lamp life. Over the life of the lamp the ballast shall produce an average output wattage of the nominal lamp rating  $\pm 3\%$ . Lamp wattage readings shall be taken at 5-volt increments throughout the ballast trapezoid. The lamp wattage values shall then be averaged within the trapezoid and shall be within  $\pm 3\%$  of the nominal ballast rating. Submittal documents shall include a tabulation of the lamp wattage vs. lamp voltage readings. Example: *For a 400w luminaire, the averaged lamp wattage reading shall not exceed the range of 388 to 412 watts*”

Revise the first paragraph of Article 1067.01(a)(7) of the Standard Specifications to read:

“Independent testing of luminaires shall be required whenever the quantity of luminaires of a given wattage and distribution, as indicated on the plans, is 50 or more. For each luminaire type to be so tested, one luminaire plus one luminaire for each 50 luminaires shall be tested i.e. 75 luminaires would dictate that 2 to be tested; 135 luminaires would dictate that three be tested.”

Add the following to Article 1067.01(a)(7) of the Standard Specifications:

“The Contractor shall be responsible for all costs associated with the specified testing, including but not limited to shipping, travel and lodging costs as well as the costs of the tests themselves, all as part of the bid unit price for this item. Travel, lodging and other associated costs for travel by the Engineer shall be direct-billed to or shall be pre-paid by the Contractor, requiring no direct reimbursement to the Engineer or the independent witness, as applicable”

Add the following to Article 1067.01(a)(7) of the Standard Specifications:

“d. Engineer Factory Selection and Witness of Manufacturer Testing: At the Manufacturer’s facility, the Engineer shall select the luminaires to be tested and shall be present during the testing process. The Contractor shall schedule travel by the Engineer to and from the Manufacturer’s laboratory to witness the performance of the required tests.”

Revise Article 1067.02(a)(1) of the Standard Specifications to read:

“The lamps shall be of the clear type and shall have a color of 2050° to 2100° Kelvin.”

Add the following table(s) to Article 1067 of the Standard Specifications:

**IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE**

<b>GIVEN CONDITIONS</b>													
<b>ROADWAY DATA</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px 2px 20px;">Pavement Width</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">60(ft)</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Number of Lanes</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">5</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">I.E.S. Surface Classification</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">R3</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Q-Zero Value</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">.07</td> </tr> </table>	Pavement Width	60(ft)	Number of Lanes	5	I.E.S. Surface Classification	R3	Q-Zero Value	.07				
Pavement Width	60(ft)												
Number of Lanes	5												
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<b>LIGHT POLE DATA</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px 2px 20px;">Mounting Height</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">50 (ft)</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Mast Arm Length</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">15 (ft)</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Pole Set-Back From Edge of Pavement</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">20 (ft)</td> </tr> </table>	Mounting Height	50 (ft)	Mast Arm Length	15 (ft)	Pole Set-Back From Edge of Pavement	20 (ft)						
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<b>LUMINAIRE DATA</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px 2px 20px;">Lamp Type</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">HPS</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Lamp Lumens</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">50000</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">I.E.S. Vertical Distribution</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">Medium</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">I.E.S. Control Of Distribution</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">Cutoff</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">I.E.S. Lateral Distribution</td> <td style="text-align: right; padding: 2px 10px 2px 20px;"><b>Type 3</b></td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Total Light Loss Factor</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">0.7</td> </tr> </table>	Lamp Type	HPS	Lamp Lumens	50000	I.E.S. Vertical Distribution	Medium	I.E.S. Control Of Distribution	Cutoff	I.E.S. Lateral Distribution	<b>Type 3</b>	Total Light Loss Factor	0.7
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<b>LAYOUT DATA</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px 2px 20px;">Spacing</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">200 (ft)</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Configuration</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">One side</td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;">Luminaire Overhang over edge of pavement</td> <td style="text-align: right; padding: 2px 10px 2px 20px;">-5 (ft)</td> </tr> </table>	Spacing	200 (ft)	Configuration	One side	Luminaire Overhang over edge of pavement	-5 (ft)						
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Configuration	One side												
Luminaire Overhang over edge of pavement	-5 (ft)												

**NOTE:** Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

<b>PERFORMANCE REQUIREMENTS</b>
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**NOTE:** These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

<b>ILLUMINATION</b>	Average Horizontal Illumination, $E_{AVE}$	13 Lux
	Uniformity Ratio, $E_{AVE}/E_{MIN}$	3
<b>LUMINANCE</b>	Average Luminance, $L_{AVE}$	.9 Cd/m <sup>2</sup>
	Uniformity Ratio, $L_{AVE}/L_{MIN}$	3
	Uniformity Ratio, $L_{MAX}/L_{MIN}$	5
	Max. Veiling Luminance Ratio, $L_V/L_{AVE}$	.3

**LAMPS**

Effective: January 1, 2002

Revise Article 1067.02(a)(1) of the Standard Specifications to read:

“The lamps shall be of the clear type and shall have a color of 2050° to 2100° Kelvin.”

**UNIT DUCT**

Effective: October 1, 2002

Revise the second paragraph of Article 816.03(b) to read:

“The unit duct shall be installed at a minimum depth of 912 mm (36-inches) unless otherwise directed by the Engineer.”

Revise Article 1066.01 to read:

“1066.01 Unit Duct. The unit duct shall be an assembly of insulated conductors, which are factory pre-installed in a coilable nonmetallic conduit. The polyethylene duct shall be extruded directly over the cable at the factory in long continuous lengths. The unit duct shall be according to NEC Article 354 and be UL Listed.”

Revise Article 1088.01(c) to read:

“(c) Coilable Nonmetallic Conduit.

Polyethylene Duct. The duct shall be a plastic duct which is intended for underground use and can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.

The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high-density polyethylene meeting the requirements of ASTM D 3350, Class C, and Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.

Duct dimensions shall conform to the following table:

Nom. Duct Diameter		Nom. Outside Diameter		Min. Wall Thickness	
mm	in	mm	in	mm	in
27	1	33.4	1.315	3.4	0.133
35	1.25	42.2	1.660	3.6	0.140
41	1.5	48.3	1.900	3.7	0.145
53	2.0	60.3	2.375	3.9	0.154

Performance Tests. Polyethylene Duct testing procedures and test results shall meet the requirements of ASTM D 3485. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct. Duct crush test results shall meet or exceed the following requirements:

Duct Diameter		Min. force required to deform sample 50%	
mm	in	N	lbs
27	1	5337	1200
35	1.25	4937	1110
41	1.5	4559	1025
53	2.0	3780	850



## **REINFORCED CONCRETE DUCTBANK**

Description. This item shall consist of forming and finishing a reinforced concrete ductbank including spacers, rebar and all required formwork as detailed on the plans and specified herein.

Execution. Construction of the ductbank shall be in accordance with Section 810 of the Standard Specifications. Refer to plan sheets for details.

The engineer shall inspect the ductbank and verify location of reinforcing rebar, conduit spacers and duct joints prior to placing of concrete. The Contractor shall be responsible for coordinating the Engineer's inspection and obtaining his approval.

Concrete used in ductbank shall be Class SI meeting the requirements of the Standard Specifications for Road and Bridge Construction Section 1020 and shall be tested in accordance with the applicable requirements of the Standard Specifications.

Basis of Payment. This item shall be paid for at the contract unit price per foot for CONDUIT ENCASED, REINFORCED CONCRETE of the diameter, quantity, and type specified, which shall be payment in full for the material and work described herein.

## **HEAVY DUTY HANDHOLE**

Description. This item shall consist of furnishing the materials and constructing a heavy-duty handhole, or a heavy-duty handhole special, cast in place, complete with frame and cover. The handhole shall be constructed in accordance with the following requirements and conforming in all respects to the lines, grades, and dimensions shown on the Plans or as directed by the Engineer.

Materials. All materials shall conform to the requirements of Article 1088.10 of the Standard Specifications. All handholes shall be constructed of Class SI concrete meeting the requirements of the Standard Specifications for Road and Bridge Construction Section 1020. Ground rod materials shall conform to the requirements of Article 806.02 of the Standard Specifications.

## **CONSTRUCTION REQUIREMENTS**

Handholes of the type specified shall be constructed in accordance with the details shown on the Plans and conform to the following requirements:

- 1.0 Concrete: Concrete construction shall be done in accordance with the provisions of Concrete for Structures and Incidental Construction contained in the Standard Specifications for Road and Bridge Construction Sec. 503.
- 2.0 Placing Castings: Castings shall be set accurately to the finished elevation so that no subsequent adjustment will be necessary. Castings shall be set flush with a sidewalk or pavement surfaces. When installed in an earth shoulder away from the pavement edge, the top surface of the casting shall be 25.4 mm (1 in.) above the finished surface of the ground.
- 3.0 Backfilling: Any backfilling necessary under a pavement, paved shoulder, and sidewalk or within 600 mm (2 ft.) of the pavement edge shall be made with sand or stone screenings.

- 4.0 Forming: Forms will be required for the inside face of the handhole wall, and across all trenches leading into the handholes excavation. The ends of conduits leading into the handhole shall fit into a conduit bell, which shall fit tightly against the inside form and the concrete shall be carefully placed around it so as to prevent leakage.
- 5.0 French Drain: A french drain conforming to the dimensions as shown on the Plans shall be constructed in the bottom of the handhole excavation.
- 6.0 Steel Hooks: Each handhole shall be provided with four galvanized steel hooks of appropriate size, one on each wall of the handhole.
- 7.0 Frame and Cover: The outside of the cover shall contain a recessed ring Type "G" for lifting and a legend "IDOT" cast-in.
- 8.0 Grounding: A 5/8" x 10' ground rod shall be installed in each handhole. Ground rod connections shall be made by exothermic welds. Ground wire for connection to handhole cover frame shall be stranded uncoated bare copper in accordance with the applicable requirements of ASTM Designation B-3 and ASTM Designation B-8 and shall be included in this item. Unless otherwise indicated, the wire shall be not less than No. 2 AWG.
- 9.0 Cleaning: The handhole shall be thoroughly cleaned of any accumulation of silt, debris, or foreign matter of any kind, and shall be free from such accumulations at the time of final inspection.

Basis of Payment. This work will be measured and paid for at the contract unit price each for HEAVY-DUTY HANDHOLE; or HEAVY-DUTY HANDHOLE (SPECIAL) of the size specified, which price shall be payment in full for the material and work described herein.

**CONDUIT ENCASED, CONCRETE, 3" DIA., PVC**

Description. This work shall consist of furnishing and installing 3 inch schedule 80 PVC conduits, fittings and accessories, encased in concrete. This specification describes the minimum design, operational, functional and installation requirements for a non-invasive, magneto-inductive vehicle sensor conduit as described herein and as shown in the Plans.

Materials.

Conduit:

The 3-inch Schedule 80 rigid electrical plastic duct shall be manufactured to meet or exceed Section 1088.01 of the Standard Specifications for Road and Bridge Construction and comply with the American Society for Testing and Materials Standards (latest edition) Designation F 512-95, and to the standards of NEMA Publication No. TC-2, for EPC-80.

The duct shall be manufactured from virgin polyvinyl chloride complying with ASTM Designation D 1784 as specified in ASTM F 512-95 (Latest Edition) with the following exception:

- 1. The Outside Diameter and wall thickness shall be as follows:

Nominal Size inches	Outside Diameter inches	Minimum Wall Thickness inches
3"	3.500 ± 0.012"	0.300 ± 0.036"

The duct shall be permanently marked at regular intervals on the outside with the manufacturer's name or trademark.

Couplings shall be PVC or acetyl butyl styrene drive-on pipe fittings.

Concrete:

Concrete shall be Class SI complying with Section 503 of the Standard Specifications for Road and Bridge Construction.

Construction Requirements. The 3-inch Schedule 80, PVC conduit shall meet or exceed Section 810 of the Standard Specifications for Road and Bridge Construction, which apply to rigid non-metallic conduit with the following additions and modifications:

1. The centerline of the conduit shall not deviate horizontally or vertically more than 0.25 inches per foot. The conduit installer shall provide a log of the boring depth, as measured every two feet along the boring distance.
2. At least one end of the conduit shall terminate at a standard size handhole or standard special size handhole and extend three inches into the handhole.
3. The conduit shall be sloped to drain into the handhole.
4. The far end of the conduit shall be capped when terminating or not terminating in a handhole.
5. The conduit encasement shall not be reinforced.

Straightness verification: Each 3-inch conduit for the installation of non-invasive sensors shall be verified for straightness prior to pavement being placed over the conduit. The Contractor shall provide the presence of the noninvasive sensor manufacturer's authorized representative during the testing of the first detection location. The Contractor shall insert non-invasive sensor carriers the full length of the conduit and demonstrate to the satisfaction of the Engineer and the non-invasive sensor manufacturer's authorized representative that the carriers move freely in the conduit without sticking or binding. If sticking or binding is observed, the non-invasive sensor conduit shall be removed, replaced, and retested. Damaged conduit shall not be re-used. Once the straightness of the non-invasive sensor conduit in the first location has been verified, the Contractor shall notify the Engineer not less than one working day in advance of verifying the straightness of subsequent non-invasive sensor conduits. The Contractor shall verify the straightness, correct any deficiencies, and re-test as described for the first installation to the satisfaction of the Engineer. The Contractor or Engineer may request that the non-invasive sensor manufacturer's authorized representative inspect any subsequent location. Verification of subsequent locations by the non-invasive sensor manufacturer's authorized representative will be at no additional cost to the State.

Underground concrete-encased conduit shall be supported on interlocking plastic spacers specifically designed for the purpose, spaced along the length of the run as recommended by the manufacturer. Spacing between raceways within a common duct bank shall be not less than 2 in. The interlocking spacers shall be used at a minimum interval of 8 ft.

Concrete cover overall shall not be less than 3.5 in above the conduit, 3.0 in below the conduit, and a 10 in by 10 in square. Space below the conduit and concrete fill shall be assured. Care shall be exercised during concrete placement to assure that there are no voids, so that spacers are undisturbed, and so that conduit joints stay secure and unbroken. Concrete shall be deflected during placement to minimize the possible damage to or movement of the conduits.

The Contractor shall ensure the concrete encasement and conduit remains undamaged during construction. One method for ensuring the concrete encasement and conduit remains undamaged during construction is by providing a granular sub-base mound a minimum of 24" high at the center of the microloop conduit installation and extending 50' on each side of the center of the microloop conduit installation. Other methods may be used, as the Contractor deems appropriate and as approved by the Engineer. Any damage to the concrete encasement and conduit during construction shall become the responsibility of the Contractor to repair or replace, as determined by the Engineer.

The Contractor shall ensure that the conduit is continuous, with no break from one handhole to the end cap as shown on the Plans. The Contractor shall test the integrity of the conduit upon completion of the roadway above each conduit. The Contractor shall install sensor carriers for the entire length of the conduit to demonstrate its suitability and correct installation. These carriers shall be removed upon approval of the Engineer and completion of the demonstration.

Method of Measurement. This item shall be measured for payment in feet for CONDUIT ENCASED, CONCRETE, 3" DIA., PVC. Measurements will be made in straight lines along the centerline of the conduit between ends.

Basis of Payment. This work shall be paid for at the contract unit price per foot for CONDUIT ENCASED, CONCRETE, 3" DIA., PVC, which shall include conduit, labor and miscellaneous materials required to make a complete and operational installation as specified herein and as directed by the Engineer.

(Singh 3/8/05)

### **GALVANIZED STEEL CONDUIT IN TRENCH**

Description. This item consists of furnishing and installing conduits, fittings, and accessories, laid in trench as specified herein, as shown on the Plans, and as directed by the Engineer.

Materials. Materials must be according to the following Articles of Standard Specifications Section 1000 - Materials, except as noted below:

<u>Item</u>	<u>Requirement</u>
(a) Rigid Steel Conduit	BOE Specification 1462

General Requirements. General requirements must be in accordance with Section 801 of the Standard Specifications, and in accordance with Bureau of Electricity Standards and the City of Chicago Electrical Code, except as herein modified.

Location. Conduits will be installed at locations as shown diagrammatically on the Plans. Conduits must be installed in the shortest practicable line between points of termination, or under adverse conditions, as directed by the Engineer. Conduits not shown on the Plans, but necessary for installation, will be paid for at the applicable bid unit price as additional units of construction.

Installation of Rigid Metal Conduit. Installation must be in accordance with Article 810.03(a) of the Standard Specifications, except for paragraph (2), which is revised to read as follows:

- "(2) The excavation for trenched conduit under pavement must be located at least 24 inches from the face of curb unless noted otherwise on the Plans. All underground conduit must have a minimum depth of 30 inches below grade.

When multiple conduits in a common trench are required, no more than three (3) 4-inch or smaller conduits must be laid on a single, horizontal level. Four (4) or more conduits must be installed on two (2) levels as directed by the Engineer.

Conduits transitioning from trench to bridge abutments must be securely attached to the retaining wall by means of galvanized clamps and clamp backs held in place by anchor bolts. Conduits must be fastened as close to the underside of the abutment as possible, and securing clamps must be installed every five (5) feet. Conduits must be continuous through party walls."

Method of Measurement. Conduit in trench will be measured for payment in feet as installed and accepted, in place. Measurements will be made in straight lines along the centerline of the conduit, horizontally, between changes in direction. Vertical conduit and sweeps installed in foundations will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot for GALVANIZED STEEL CONDUIT IN TRENCH, of the size and type specified, which shall be payment in full for the material and work described herein. Excavation, including but not limited to trench and backfill, will not be included in this item and will be paid separately.

#### **REMOVE AND RELOCATE EXISTING LIGHTING UNIT**

Description. This work shall consist of the removal of a light pole, mast arm, luminaire and all associated hardware. The light pole, mast arm, luminaire and associated hardware shall be removed and stored until the proposed foundation is built. The Contractor shall make note of the condition of the complete lighting unit. The complete lighting unit shall be re-installed in the same condition that it was found when removed. The light pole shall be re-installed in the same location on a new foundation. The splicing of the cable in the light pole shall be included with this work.

Basis of Payment. This work shall be paid for at the contract unit price each for REMOVE AND RELOCATE EXISTING LIGHTING UNIT, which shall be payment in full for the work described herein.

**FORMED CONCRETE REPAIR**

Effective: October 10, 1995

Revised: February 7, 2005

This work consists of removing and disposing of all deteriorated concrete and replacing it with new concrete at the locations specified on the plans and as directed by the Engineer. The concrete shall have a minimum compressive strength as specified on the plans but not less than that specified for class SI concrete. This work shall also include the construction of necessary formwork and scaffolding and installing supplemental reinforcement bars and expansion bolts as directed by the Engineer.

The materials and construction methods shall conform to the applicable provisions of Sections 503 and 508 of the Standard Specifications. The coarse aggregate for Class SI concrete shall be gradation CA 16 only, the cement factor shall be a minimum 395 kg/ cu m (6.65 cwt/ cu yd), and a high range water-reducing admixture shall be used to obtain a 125-175 mm (5-7 in.) slump.

Construction Methods. The areas to be repaired shall have all loose, unsound concrete removed completely by the use of an electric chisel or other mechanical tools approved by the Engineer. All reinforcing bars within the repair area shall be undercut to a depth that will permit a minimum of 25 mm (1 in.) of plastic concrete under the reinforcing bars. When removing the existing concrete the Contractor shall provide a 25 mm (1 in.) deep saw cut along the outside edges of the repair area.

Existing reinforcement bars shall be cleaned by sandblasting. After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required.

Reinforcing bars that have been cut or have lost 25 percent or more of their original cross sectional area shall be supplemented by new inkind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. An approved "squeeze type" mechanical bar splicer capable of developing in tension at least 125 percent of the yield strength of the existing bar shall be used when it is not feasible to provide the minimum bar lap. No welding of bars will be permitted. The furnishing and replacing of supplemental reinforcement bars shall be included in this item.

The formwork shall provide a smooth and uniform concrete finish most nearly matching the existing surface of the concrete structures. Formwork shall be completely mortar tight and closely fitted where they adjoin the existing concrete surface to prevent leakage. Air vents may be provided to reduce voids and improve surface appearance. The Contractor shall use exterior mechanical vibration, as approved by the Engineer, to release air pockets that may be entrapped.

Prior to placing the new concrete the Contractor shall prepare the surface of the existing concrete against which the new concrete is placed by sand, air or water blasting. The surface shall be free of oil, dirt and loose concrete. Just prior to concrete placement the surface shall be thoroughly wetted to a saturated surface dry condition or as directed by the Engineer.

Curing shall be done according to the applicable portions of Article 1020.13 of the Standard Specifications and as directed by the Engineer.

All areas of repair, under this item shall have a minimum concrete thickness of 25 mm (1 in.).

The Contractor shall anchor the new concrete to the existing concrete with 20 mm (3/4 in.) diameter expansion hook bolts for all overhead repair areas and wherever the depth of concrete removal is greater than 205 mm (8 in.). The expansion hook bolts shall be spaced at 380 mm (15 in.) maximum centers both vertically and horizontally. The furnishing and placing of the expansion hook bolts shall be included in this item.

At all locations, where the removal of deteriorated concrete reaches a total depth including all sides greater than 300 mm (12 in.) or half the depth of the member, the Bureau of Bridges and Structures shall be contacted for structural evaluation.

Method of Measurement. The completed formed concrete repair, accepted by the Engineer, will be measured in square meters (square feet). The computed area will include the formed and/or finished surface areas.

Basis of Payment. The above specified work shall be paid for at the contract unit prices per square meter (square foot) for FORMED CONCRETE REPAIR (DEPTH GREATER THAN 125 mm (5 in.)) and/or FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 125 mm (5 in.)) which prices shall include all labor and materials necessary to complete the work in place.

## **DRILLED SHAFTS**

Effective: May 1, 2001

Revised: February 7, 2005

Description. This work shall consist of all labor, materials, equipment and services necessary to complete the drilled shaft installation according to the details and dimensions shown on the plans, this specification and as directed by the Engineer.

Submittals. The Contractor shall submit the following:

- (a) Qualifications. At the time of the preconstruction conference, the Contractor shall provide the following documentation:
  - (1) A list containing at least 3 projects completed within the 3 years prior to this project's bid date which the Contractor performing this work has installed drilled shafts of similar diameter, length and site conditions to those shown in the plans. The list of projects shall contain names and phone numbers of owner's representatives who can verify the Contractor's participation on those projects.
  - (2) Name and experience record of the drilled shaft supervisor, responsible for all facets of the shaft installation, and the drill operator(s) who will be assigned to this project. The supervisor and driller shall each have a minimum of 3 years experience in the construction of drilled shafts.

- (3) A signed statement that the drilled shaft supervisor has inspected both the project site and all the subsurface information available. In addition to the subsurface information in the contract documents, rock core specimens and/or geotechnical reports, when available, should be requested for evaluation.
- (b) Installation Procedure. A submittal detailing the installation procedure will be required for all drilled shafts, unless directed otherwise by the Engineer. The Contractor, meeting the above qualifications, shall prepare the installation procedure, addressing all items shown below and will be responsible for directing all aspects of the shaft construction. The installation procedure shall be submitted to the Engineer at least 45 days prior to drilled shaft construction and shall address each of the following items:
- (1) List of proposed equipment to be used including cranes, drill rigs, augers, belling tools, casing, core barrels, bailing buckets, final cleaning equipment, slurry equipment, tremies or concrete pumps, etc.
  - (2) Details of the overall construction operation sequence, equipment access, and the sequence of individual shaft construction within each substructure bent or footing group. The submittal shall address the Contractor's proposed time delay and/or the minimum concrete strength necessary before initiating a shaft excavation adjacent to a recently installed drilled shaft.
  - (3) A step by step description of how the Contractor anticipates the shaft excavation to be advanced based on their evaluation of the subsurface data and conditions expected to be encountered. This sequence shall note the method of casing advancement, anticipated casing lengths, tip elevations and diameters, the excavation tools used and drilled diameters created. The Contractor shall indicate whether wet or dry drilling conditions are expected or if the water table will be sealed from the excavation.
  - (4) When slurry is proposed, details covering the measurement and control of the hardness of the mixing water, agitation, circulation, de-sanding, sampling, testing and chemical properties of the slurry shall be submitted.
  - (5) Method(s) and sequence proposed for the shaft cleaning operation as well as recommendations on how the shaft excavation will be inspected under the installation conditions anticipated.
  - (6) Details of reinforcement placement including cage centralization devices to be used and method to maintain proper elevation and plan location of cage within the shaft excavation during concrete placement. The method(s) of adjusting the cage length if rock is encountered at an elevation other than as estimated in the plans.
  - (7) Details of concrete placement including proposed operational procedures for free fall, tremie or pumping methods. The sequence and method of casing removal shall also be stated along with the top of pour elevation, and method of forming through water above streambed.
  - (8) The proposed concrete mix design(s).

The Engineer will evaluate the drilled shaft installation plan and notify the Contractor of acceptance, or if additional information is required, or if there are concerns with the installation's effect on the existing or proposed structure(s).



Materials. The materials used for the construction of the drilled shaft shall satisfy the following requirements:

- (a) The drilled shaft portland cement concrete shall be according to Section 1020, except the mix design shall be as follows:
- (1) A Type I or II cement shall be used at 395 kg/cu m (665 lb/cu yd). When specified in the plans that soil and ground water sulfate contaminates exceed 500 parts per million, a Type V cement shall be required.
  - (2) Class C or F fly ash may replace Type I or II cement. The cement replacement shall not exceed 15 percent by mass (weight) at a minimum replacement ratio of 1.5:1. The fly ash shall not be used in combination with ground granulated blast-furnace slag.
  - (3) Grade 100 or 120 ground granulated blast-furnace slag may replace Type I or II cement. The cement replacement shall not exceed 25 percent by mass (weight) at a minimum replacement ratio of 1:1. The ground granulated blast-furnace slag shall not be used in combination with fly ash.
  - (4) The maximum water/cement ratio shall be 0.44.
  - (5) The mortar factor shall be a value which produces a coarse aggregate content comprising between 55 and 65 percent of total aggregate by mass (weight).
  - (6) The slump at point of placement shall be 175 mm  $\pm$  25 mm (7  $\pm$  1 in.). If concrete is placed to displace drilling fluid, or against temporary casing, the slump shall be 200 mm  $\pm$  25 mm (8  $\pm$  1 in.) at point of placement. The concrete mix shall be designed to remain fluid throughout the anticipated duration of the pour plus 1 hour.
  - (7) An air entraining admixture shall be required and the air content range shall be 4.0 to 7.0 percent.
  - (8) The minimum compressive strength shall be 27,500 kPa (4000 psi) at 14 days. The minimum flexural strength shall be 4,650 kPa (675 psi) at 14 days.
  - (9) A retarding admixture shall be required.
  - (10) A water-reducing or high range water-reducing admixture shall be required.
  - (11) An accelerating admixture may be used with the permission of the Engineer in extraordinary situations.
  - (12) The coarse aggregate shall be a CA 13, CA 14, CA 16 or a blend of these gradations. The fine aggregate shall consist of sand only according to Article 1003.01(a).

At the Engineers discretion, and at no additional cost to the Department, the Contractor may be required to conduct a minimum 0.76 cu m (1 cu yd) trial batch to verify the mix design.

- (b) The sand-cement grout mix used to fill any visible gaps, which may exist between the permanent casing and either the drilled excavation or temporary casing, shall be as follows:
- (1) A Type I or II cement shall be used at 110 kg/cu m (185 lb/cu yd). When specified in the plans that soil and ground water sulfate contaminates exceed 500 parts per million, a Type V cement shall be required. The cement shall be according to Section 1001.

- (2) The fine aggregate shall be according to Articles 1003.01 and 1003.02.
  - (3) The water shall be according to Section 1002.
  - (4) The maximum water shall be sufficient to provide a flowable mixture with a typical slump of 254 mm (10 in.).
- (c) Reinforcement shall be according to Section 508 of the Standard Specifications.
- (d) Drilling slurry, when required, shall consist of a polymer or mineral base material. Mineral slurry shall have both a mineral grain size that will remain in suspension with sufficient viscosity and gel characteristics to transport excavated material to a suitable screening system. The percentage and specific gravity of the material used to make the suspension shall be sufficient to maintain the stability of the excavation and to allow proper concrete placement. For polymer slurry, the calcium hardness of the mixing water shall not exceed 100 mg/L.
- (e) Permanent casing, when required, shall be fabricated from steel satisfying ASTM A252 Grade 2, produced by electric seam, butt, or spiral welding to satisfy the outside diameter(s) and lengths shown in the contract plans or as shown in the Contractor's installation procedure. The minimum wall thickness shall be as required to resist the anticipated installation and dewatering stresses, as determined by the Contractor, but in no case less than 6 mm (1/4 in.).

Equipment. The drilling equipment shall have adequate capacity, including power, torque and down thrust, to create a shaft excavation of the maximum diameter specified to a depth of 20 percent beyond the depths shown on the plans. Standby equipment of sufficient capacity shall be available so that there will be no delay in placing of the concrete once the operation has started. Concrete equipment shall be according to Article 1020.03 of the Standard Specifications.

Construction Requirements. Excavation for drilled shaft(s) shall not proceed until written authorization is received from the Engineer. The Contractor shall furnish an installation log for each shaft installed. Excavation by blasting shall not be permitted unless authorized in writing by the Engineer.

No shaft excavation shall be made within 4 shaft diameters center to center of a shaft with concrete that has a compressive strength less than 10,342 kPa (1500 psi) unless otherwise approved in the Contractor's installation procedure. The site-specific soil strengths and installation methods selected will determine the actual required minimum spacing, if any, to address vibration and blow out concerns.

Materials removed or generated from the shaft excavations shall be disposed of by the Contractor according to Article 202.03 of the Standard Specifications.

The Contractor's methods and equipment shall be suitable for the anticipated conditions and the following requirements noted below:

- (a) Construction Tolerances. The following construction tolerances shall apply to all drilled shafts unless otherwise stated in the contract documents:
- (1) The center of the drilled shaft shall be within 75 mm (3 in.) of the plan station and offset at the top of the shaft.
  - (2) The center of the reinforcement cage shall be within 38 mm (1 1/2 in.) of plan station and offset at the top of the shaft.
  - (3) The out of vertical plumbness of the shaft shall not exceed 1.5 percent.
  - (4) The out of vertical plumbness of the shaft reinforcement cage shall not exceed 0.83 percent.
  - (5) The top of the reinforcing steel cage shall be no more than 25 mm (1 in.) above and no more than 75 mm (3 in.) below the plan elevation.
  - (6) The top of the shaft shall be no more than 25 mm (1 in.) above and no more than 75 mm (3 in.) below the plan elevation.
  - (7) Excavation equipment and methods used to complete the shaft excavation shall have a nearly planar bottom. The cutting edges of excavation equipment used to create the bottom of shafts in rock shall be normal to the vertical axis of the shaft within a tolerance of 6.25 percent.
- (b) Construction Methods. The construction of drilled shafts may involve the use of one or more of the following methods to support the excavation during the various phases of shaft drilling, cleaning and concrete placement dependent on the site conditions encountered. The following are general descriptions indicating the conditions when these methods may be used:
- (1) Dry Method. The dry method consists of drilling the shaft excavation, removing accumulated water and loose material from the excavation, placing the reinforcing cage, and concrete in a predominately dry excavation. This method shall be used only at sites where the groundwater and soil conditions are suitable to permit the drilling and dewatering of the excavation without causing excessive water infiltration, boiling, squeezing, or caving of the shaft side walls. This method allows the concrete placement by tremie or concrete pumps, or if the excavation can be dewatered, the concrete can be placed by free fall within the limits specified for concrete placement.
  - (2) Wet Method. The wet construction method may be used at sites where dewatering the excavation would cause collapse of the shaft sidewalls or when the volume and head of water flowing into the shaft is likely to contaminate the concrete during placement resulting in a shaft defect. This method uses water or slurry to maintain stability of the shaft perimeter while advancing the excavation. After the excavation is completed, the water level in the shaft is allowed to seek equilibrium, the base is cleaned, the reinforcing cage is set and the concrete is discharged at the base using a tremie pipe or concrete pump, displacing the drilling fluid upwards.
  - (3) Temporary Casing Method. Temporary casing shall be used when either the wet or dry methods provide inadequate support to prevent sidewall caving or ensure excessive deformation of the hole. Temporary casing may also be used to reduce the flow of water into the excavation to allow dewatering, adequate cleaning and inspection, or to insure proper concrete placement. Temporary casing left in place may constitute a shaft defect; no temporary casing will be allowed to remain permanently in place without the specific approval of the Engineer.

- Before the temporary casing is broken loose, the level of concrete in the casing shall be a minimum of 1.5 m (5 ft) above the bottom of the casing. After being broken loose and as the casing is withdrawn, additional concrete shall be added to maintain sufficient head so that water and soil trapped behind the casing can be displaced upward and discharged at the ground surface without contaminating the concrete in the shaft or at the finished construction joint.
- (4) Permanent Casing Method. When called for on the plans or proposed as part of the Contractor's accepted installation procedure, the Contractor shall install a permanent casing of the diameter, length, thickness and strength specified. When permanent casings are used, the lateral loading design requires intimate contact between the casing and the surrounding soils. If the installation procedure used to set the permanent casing results in annular voids between the permanent casing and the drilled excavation, the voids shall be filled with a sand-cement grout to maintain the lateral load capacity of the surrounding soil, as assumed in the design. No permanent casing will be allowed to remain in place beyond the limits shown on the plans without the specific approval of the Engineer.
- (5) Removable Forms. When the shaft extends above streambed through a body of water and permanent casing is not shown, the portion above the streambed shall be formed with removable casings, column forms, or other forming systems as approved by the Engineer. The forming system shall not scar or spall the finished concrete or leave in place any forms or casing within the removable form limits as shown on the plans unless approved as part of the installation procedure. The forming system shall not be removed until the concrete has attained a minimum compressive strength of 17,237 kPa (2500 psi) and cured for a minimum of 72 hours. For shafts extending through water, the concrete shall be protected from water action after placement for a minimum of 7 days.
- (c) Slurry. If the Contractor proposes to use a method of slurry construction, it shall be submitted with the installation plan. During construction, the level of the slurry shall be maintained at a height sufficient to prevent caving of the hole. In the event of a sudden or significant loss of slurry to the hole, the construction of that foundation shall be stopped and the shaft excavation backfilled or supported by temporary casing, until a method to stop slurry loss, or an alternate construction procedure has been approved by the Engineer.
- (d) Obstructions. Obstructions shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) that cannot be removed with normal earth drilling procedures but requires special augers, tooling, core barrels or rock augers to remove the obstruction. When obstructions are encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to core, break up, push aside, or remove the obstruction. Lost tools or equipment in the excavation as a result of the Contractor's operation shall not be defined as obstructions and shall be removed at the Contractor's expense.
- (e) Top of Rock. The actual top of rock will be defined as the point when material is encountered which can not be drilled with a conventional earth auger and/or underreaming tool, and requires the use of special rock augers, core barrels, air tools, blasting or other methods of hand excavation.

- (f) Sidewall overreaming. Sidewall overreaming shall be required when the sidewall of the hole is determined by the Engineer to have either softened due to the excavation methods, swelled due to delay in concreting, or degraded because of slurry cake buildup. It may also be required to correct a shaft excavation which has been drilled out of tolerance. Overreaming thickness shall be a minimum of 13 mm (1/2 in.). Overreaming may be accomplished with a grooving tool, overreaming bucket or other approved equipment. Any extra concrete needed as a result of the overreaming shall be furnished and installed at the Contractor's expense.
- (g) Excavation Inspection. The Contractor shall be responsible for verification of the dimensions and alignment of each shaft excavation as directed by the Engineer. Unless otherwise specified in the contract documents, the Contractor's cleaning operation shall be adjusted so that a minimum of 50 percent of the base of each shaft shall have less than 13 mm (1/2 in.) of sediment or debris at the time of placement of the concrete. The maximum depth of sediment or any debris at any place on the base of the shaft shall not exceed 38 mm (1 1/2 in.).

Shaft cleanliness will be determined by the Contractor using the methods as submitted in their installation procedure. Visual inspection coupled with the use of a weighted tape may also be used to confirm adequate cleanliness.

- (h) Design Modifications. If the top of rock elevation differs from that shown on the plans by more than 10 percent of the length of the shaft above the rock, the Engineer shall be contacted to determine if any drilled shaft design changes may be required. In addition, if the type of soil or rock encountered is not similar to that shown in the subsurface exploration data, the Contractor may be required to extend the drilled shaft length(s) beyond those specified in the plans. In either case, the Engineer will determine if revisions are necessary and the extent of the modifications required.
- (i) Reinforcement Cage Construction and Placement. The shaft excavation shall be cleaned, inspected and accepted prior to placing the reinforcement cage. The reinforcement cage shall be completely assembled prior to drilling and be ready for adjustment in length as required by the conditions encountered. The cage shall be lifted using multiple point sling straps or other approved methods to avoid cage distortion or stress. Additional cross frame stiffeners may also be required for lifting or to keep the cage in proper position during lifting and concrete placement.

The Contractor shall attach suitable centralizers to keep the cage away from the sides of the shaft excavation and ensure that at no point will the finished shaft have less than the minimum concrete cover(s) shown on the plans. The cage centralizers or other approved non-corrosive spacing devices shall be used at sufficient intervals (near the bottom and at intervals not exceeding 3 m (10 ft) throughout the length of the shaft) to ensure proper cage alignment and clearance for the entire shaft.

If the top of rock encountered is deeper than estimated in the plans, and/or if the conditions differ such that the length of the shaft is increased, additional longitudinal bars shall be either mechanically spliced or lap spliced to the lower end of the cage and confined with either hoop ties or spirals to provide the additional length. If the additional shaft length is less than the lap splice shown, subject to the approval of the Engineer, a mechanical splice may be used in lieu of the lap splice in order to take advantage of or utilize that lap length in the extension of the shaft reinforcement. The Contractor shall have additional reinforcement available or fabricate the cages with additional length as necessary to make the required adjustments in a timely manner as dictated by the encountered conditions. The additional reinforcement may be non-epoxy coated at the option of the Contractor. Any reinforcement fabricated in advance but not incorporated into the installed shaft(s) shall not be paid for but shall remain the property of the Contractor.

- (j) Concrete placement. Concrete work shall be performed according to the applicable portions of Section 503 of the Standard Specifications and as specified herein.

Concrete shall be placed as soon as possible after reinforcing steel is set and secured in proper position. The pour shall be made in a continuous manner from the bottom to the top elevation of the shaft as shown on the contract plan or as approved in the Contractor's installation procedure. Concrete placement shall continue after the shaft excavation is full and until good quality, uncontaminated concrete is evident at the top of shaft. The elapsed time from the beginning of concrete placement in the shaft to the completion of the placement shall not exceed 2 hours. The Contractor may request a longer placement time provided the concrete mix maintains the minimum slump requirements over the longer placement time as demonstrated by trial mix and slump loss tests. Concrete shall be placed either by free fall, or through a tremie or concrete pump subject to the following conditions:

- (1) The free fall placement shall only be permitted in shafts that can be dewatered to ensure less than 75 mm (3 in.) of standing water exist at the time of placement without causing side wall instability. The maximum height of free fall placement shall not exceed 18.3 m (60 ft). Concrete placed by free fall shall fall directly to the base without contacting either the rebar cage or hole sidewall. Drop chutes may be used to direct concrete to the base during free fall placement.

Drop chutes used to direct placement of free fall concrete shall consist of a smooth tube of either one continuous section or multiple pieces that can be added and removed. Concrete may be placed through either a hopper at the top of the tube or side openings as the drop chute is retrieved during concrete placement. The drop chute shall be supported so that the free fall does not exceed 18.3 m (60 ft) at all times and to ensure the concrete does not strike the rebar cage. If placement cannot be satisfactorily accomplished by free fall in the opinion of the Engineer, the Contractor shall use either tremie or pumping to accomplish the pour.

- (2) Tremies shall consist of a tube of sufficient length, weight, and diameter to discharge the initial concrete at the base of the shaft. The tremie shall be according to Article 503.08 of the Standard Specifications and contain no aluminum parts that may have contact with the concrete. The inside and outside surfaces of the tremie shall be clean and smooth to permit both flow of concrete and unimpeded withdrawal during concrete placement.

- (3) Concrete pumps: Pumps and lines may be used for concrete placement and shall have a minimum 100 mm (4 in.) diameter.

The tremie or pump lines used for wet method concrete placement shall be watertight and not begin discharge until placed within 250 mm (10 in.) of the shaft base. Valves, bottom plates or plugs may be used only when they can be removed from the excavation or be of a material approved by the Engineer that will not cause a defect in the shaft if not removed. The discharge end shall be immersed at least 1.5 m (5 ft) in concrete at all times after starting the pour. Sufficient concrete head shall be maintained in the tremie at all times to prevent water or slurry intrusion in the shaft concrete.

If at any time during the concrete pour in the "wet" hole, the tremie or pump line orifice is removed from the fluid concrete and discharges through drilling fluid or water above the rising concrete level, the shaft may be considered defective.

Vibration of concrete is not recommended when placed while displacing drilling fluid or water. In dry excavations, vibration is allowed only in the top 3 m (10 ft) of the shaft.

Conformity with Contract. In addition to Article 105.03, the Contractor shall be responsible for correcting all out of tolerance excavations and completed shafts as well as repairing any defects in the shaft to the satisfaction of the Engineer at no additional cost to the Department. No time extensions will be allowed to repair or replace unacceptable work. When a shaft excavation is completed with unacceptable tolerances, the Contractor will be required to submit for approval his/her proposed corrective measures. Any proposed design modification with computations submitted by the Contractor shall be signed and sealed by an Illinois licensed Structural Engineer.

Method of Measurement. The items Drilled Shaft in Soil and Drilled Shaft in Rock, will be measured for payment and the length computed in meters (feet) for all drilled shafts installed according to the plans, specifications, and accepted by the Engineer. The length shall be measured at each shaft. The length in soil will be defined as the difference in elevation between the top of the drilled shaft shown on the plans, or as installed as part of the Contractor's installation procedure, and the bottom of the shaft or the top of rock (when present) whichever is higher. The length in rock will be defined as the difference in elevation between the measured top of rock and the bottom of the shaft. When permanent casing is installed as specified on the plans, it will be measured in meters (feet) and shall be the length of casing installed.

Basis of Payment. This work will be paid for at the contract unit price per meter (foot) for DRILLED SHAFT IN SOIL, and/or DRILLED SHAFT IN ROCK, of the diameter(s) specified. The price shall be payment in full for all labor, materials, equipment, and services necessary to complete the work as specified. When the shaft is detailed with a belled base, furnishing and installing it shall not be paid for separately but shall be included in the cost of the appropriate drilled shaft item(s).

When permanent casing is furnished and installed as specified, it will be paid for at the contract unit price per meter (foot) for PERMANENT CASING. Permanent casing installed at the Contractor's option shall not be included in this item, but shall be considered as included in the appropriate drilled shaft item(s) above.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

No additional compensation, other than noted above, will be allowed for removing and disposing of excavated materials, for furnishing and placing concrete, bracing, lining, temporary casings placed and removed or left in place, for grouting of any voids, or for any excavation made or concrete placed outside of the plan diameter(s) of the shaft(s) specified.

Reinforcement bars, spirals and ties shall be as specified and paid for under the items, REINFORCEMENT BARS or REINFORCEMENT BARS EPOXY COATED, according to Section 508 of the Standard Specifications.

### **DRAINAGE SYSTEM**

Effective : June 10, 1994

Revised: January 1, 2002

Description. This work shall consist of furnishing and installing a bridge drainage system as shown on the plans, including all piping, fittings, support brackets, inserts, bolts, and splash blocks when specified.

Material. The pipe and fittings shall be reinforced fiberglass according to ASTM D 2996 RTRP with a 207 MPa (30,000 psi) minimum short-time rupture strength hoop tensile stress. The reinforced fiberglass shall also have an apparent stiffness factor at 5 percent deflection exceeding 22.6 cu mm-kPa (200 cu in.-lbf/sq in) and a minimum wall thickness of 2.54 mm (0.10 in.). All pipe supports and associated hardware shall be hot dip galvanized according to AASHTO M 232. The fiberglass pipe and fittings furnished shall be pigmented through out, or have a resin-rich pigmented exterior coat, specifically designed for overcoating fiberglass, as recommended by the manufacturer. The color shall be as specified by the Engineer. The resin in either case shall have an ultraviolet absorber designed to prevent ultraviolet degradation. The supplier shall certify the material supplied meets or exceeds these requirements.

Installation. All connections of pipes and fittings shown on the plans to facilitate future removal for maintenance cleanout or flushing shall be made with a threaded, gasketed coupler or a bolted gasketed flange system. Adhesive bonded joints will be permitted for runs of pipe between such connections. The end run connection shall feature a minimum nominal 150 mm (6 in.) female threaded fiberglass outlet. Straight runs may utilize a 45 degree reducing saddle bonded to the pipe. The female outlet shall be filled with a male threaded PVC plug.

Runs of pipe shall be supported at spacings not exceeding those recommended by the manufacturer of the pipe. Supports that have point contact or narrow supporting areas shall be avoided. Standard slings, clamps, clevis hangers and shoe supports designed for use with steel pipe may be used. A minimum strap width for hangers shall be 40 mm (1 1/2 in.) for all pipe under 300 mm (12 in.) in diameter and 50 mm (2 in.) for diameters 300 mm (12 in.) or greater. Straps shall have 120 degrees of contact with the pipe. Pipes supported on less than 120 degrees of contact shall have a split fiberglass pipe protective sleeve bonded in place with adhesive.

All reinforced fiberglass pipe, fittings, and expansion joints shall be handled and installed according to guidelines and procedures recommended by the manufacturer or supplier of the material.



Basis of Payment. This work will be paid for at the contract lump sum price for DRAINAGE SYSTEM.

**DECK SLAB REPAIR**

Effective: May 15, 1995

Revised: June 27, 2005

This work shall consist of bituminous surface removal, when required, the removal and disposal of all loose and deteriorated concrete from bridge deck and the replacement with new concrete to the original top of deck. The work shall be done according to the applicable requirements of Sections 501, 503 and 1020 of the Standard Specifications and this Special Provision.

Deck slab repairs will be classified as follows:

- (a) Partial-Depth. Partial-depth repairs shall consist of removing the loose and unsound deck concrete, disposing of the concrete removed and replacing with new concrete. The removal may be performed by chipping with power driven hand tools or by hydro-scarification equipment. The depth shall be measured from the top of the concrete deck surface, at least 20 mm (3/4 in.) but not more than 1/2 the concrete deck thickness.
- (b) Full-Depth. Full-depth repairs shall consist of removing concrete full-depth of the deck, disposing of the concrete removed, and replacing with new concrete to the original concrete deck surface. The removal may be performed with power driven hand tools or by hydro-scarification equipment. Full-depth repairs shall be classified for payment as Full-Depth, Type I and Full-Depth, Type II according to the following:
  - Type I Full-depth patches less than or equal to 0.5 sq m (5 sq ft) in area. The minimum dimensions for a patch shall be 300 mm x 300 mm (1 ft X 1 ft).
  - Type II Full-depth patches greater than 0.5 sq m (5 sq ft) in area.

Materials.

Materials shall be according to Article 1020.02.

Portland cement concrete for partial and full-depth repairs shall be according to Section 1020. Class PP-1, PP-2, PP-3, PP-4, or BD concrete shall be used at the Contractor's option. For Class BD concrete, a CA 13, 14, or 16 shall be used.

Grout. The grout for bonding new concrete to old concrete shall be proportioned by mass (weight) and mixed at the job site, or it may be ready-mixed if agitated while at the job site. The bonding grout shall consist of one part portland cement and one part sand, mixed with sufficient water to form a slurry. The bonding grout shall have a consistency allowing it to be scrubbed onto the prepared surface with a stiff brush or broom leaving a thin, uniform coating that will not run or puddle in low spots. Grout that can not be easily and evenly applied or has lost its consistency may be rejected by the Engineer. Grout that is more than two hours old shall not be used.

Equipment:

The equipment used shall be subject to the approval of the Engineer and shall meet the following requirements:

- (a) Surface Preparation Equipment. Surface preparation and concrete removal equipment shall be according to the applicable portions of Section 1100 and the following:
  - (1) Sawing Equipment. Sawing equipment shall be a concrete saw capable of sawing concrete to the specified depth.
  - (2) Blast Cleaning Equipment. The blast cleaning may be performed by wet sandblasting, high-pressure waterblasting, shotblasting or abrasive blasting. Blast cleaning equipment shall be capable of removing rust and old concrete from exposed reinforcement bars, and shall have oil traps.
  - (3) Power-Driven Hand Tools. Power-driven hand tools will be permitted including jackhammers lighter than the nominal 20 kg. (45 lb) class. Chipping hammers heavier than a nominal 6.8 kg. (15 lb) class shall not be used for removing concrete from below any reinforcing bar for partial depth repairs or final removal at the boundary of full-depth repairs. Jackhammers or chipping hammers shall not be operated at an angle in excess of 45 degrees measured from the surface of the slab.
  - (4) Hydro-Scarification Equipment. The hydro-scarification equipment shall consist of filtering and pumping units operating with a remote-controlled robotic device. The equipment may use river, stream or lake water. Operation of the equipment shall be performed and supervised by qualified personnel certified by the equipment manufacturer. Evidence of certification shall be presented to the Engineer. The equipment shall be capable of removing concrete to the specified depth and removing rust and concrete particles from exposed reinforcing bars. Hydro-scarification equipment shall be calibrated before being used and shall operate at a minimum of 124 MPa (18,000 psi).
- (b) Concrete Equipment: Equipment for proportioning and mixing the concrete shall be according to Article 1020.03.
- (c) Finishing Equipment: Finishing equipment shall be according to Article 1103.17. Adequate hand tools will be permitted for placing and consolidating concrete in the patch areas and for finishing small patches.

Construction Requirements: Sidewalks, curbs, drains, reinforcement and/or existing transverse and longitudinal joints which are to remain in place shall be protected from damage during removal and cleaning operations. All damage caused by the Contractor shall be corrected, at the Contractor's expense, to the satisfaction of the Engineer.

The Contractor shall control the runoff water generated by the various construction activities in such a manner as to minimize, to the maximum extent practicable, the discharge of construction debris into adjacent waters, and shall properly dispose of the solids generated according to Article 202.03. Runoff water will not be allowed to constitute a hazard on adjacent or underlying roadways, waterways, drainage areas or railroads nor be allowed to erode existing slopes.

(a) Bituminous Surface Removal.

The bituminous concrete surface course and all waterproofing membrane shall be removed and disposed of according to applicable portions of Articles 440.03 and 440.06, except milling equipment will not be allowed if the deck is to receive a waterproofing membrane system. If the overlay or waterproofing membrane contains asbestos fibers, removal shall be in accordance with the Special Provision for "Asbestos Waterproofing Membrane or Asbestos Bituminous Concrete Surface Removal". Removal of the bituminous surface by the use of radiant or direct heat will not be permitted.

(b) Surface Preparation:

All loose, disintegrated and unsound concrete shall be removed from portions of the deck slab shown on the plans or as designated by the Engineer. The Engineer will determine the limits of removal as the work progresses.

The Contractor shall take care not to damage reinforcement bars or expansion joints which are to remain in place. Any damage to reinforcement bars or expansion joints shall be corrected at the Contractor's expense. All loose reinforcement bars, as determined by the Engineer, shall be retied at the Contractor's expense.

(1) Partial-Depth. Areas to be repaired will be determined and marked by the Engineer. A concrete saw shall be used to provide vertical edges approximately 20 mm (3/4 in.) deep around the perimeter of the area to be patched when an overlay is not specified. Where high steel is present, the depth may be reduced as directed by the Engineer. A saw cut will not be required on those boundaries along the face of the curb, parapet or joint or when sharp vertical edges are provided by hydro-scarification.

The loose and unsound concrete shall be removed by chipping, with power driven hand tools or by hydro-scarification equipment. All exposed reinforcing bars and newly exposed concrete shall be thoroughly blast cleaned. Where, in the judgment of the Engineer, the bond between existing concrete and reinforcement steel within the patch area has been destroyed, the concrete adjacent to the bar shall be removed to a depth that will permit new concrete to bond to the entire periphery of the exposed bar. A minimum of 25 mm (1 in.) clearance will be required. The Engineer may require enlarging a designated removal area should inspection indicate deterioration beyond the limits previously designated. In this event, a new saw cut shall be made around the extended area before additional removal is begun. The removal area shall not be enlarged solely to correct debonded reinforcement or deficient lap lengths.

- (2) Full-Depth. Concrete shall be removed as determined by the Engineer within all areas designated for full-depth repair and in all designated areas of partial depth repair in which unsound concrete is found to extend below half the concrete deck thickness. Full depth removal shall be performed according to Article 501.03. Saw cuts shall be made on the top of the deck, except those boundaries along the face of curbs, parapets and joints or where hydro-scarification provided sharp vertical edges. The top saw cut may be omitted if the deck is to receive an overlay.

Forms for full-depth repair may be supported by hangers with adjustable bolts or by blocking from the beams below. When approved by the Engineer, forms for Type 1 patches may be supported by No. 9 wires or other devices attached to the reinforcement bars.

All form work shall be removed after the curing sequence is complete and prior to opening to traffic.

- (3) Reinforcement Treatment. Care shall be exercised during concrete removal to protect the reinforcement bars and structural steel from damage. Any damage to the reinforcement bars or structural steel to remain in place shall be repaired or replaced to the satisfaction of the Engineer at the Contractor's expense. All existing reinforcement bars shall remain in place except as herein provided for corroded bars. Tying of loose bars will be required. Reinforcing bars which have been cut or have lost 25 percent or more of their original cross sectional area shall be supplemented by new in kind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. An approved mechanical bar splice capable of developing in tension at least 125 percent of the yield strength of the existing bar shall be used when it is not feasible to provide the minimum bar lap. No welding of bars will be permitted.

- (4) Cleaning. Immediately after completion of the concrete removal and reinforcement repairs, the repair areas shall be cleaned of dust and debris. Once the initial cleaning is completed, the repair areas shall be thoroughly blast cleaned to a roughened appearance free from all foreign matter. Particular attention shall be given to removal of concrete fines. Any method of cleaning which does not consistently produce satisfactory results shall be discontinued and replaced by an acceptable method. All debris, including water, resulting from the blast cleaning shall be confined and shall be immediately and thoroughly removed from all areas of accumulation. If concrete placement does not follow immediately after the final cleaning, the area shall be carefully protected with well-anchored polyethylene sheeting.

Exposed reinforcement bars shall be free of dirt, detrimental scale, paint, oil, or other foreign substances which may reduce bond with the concrete. A tight non-scaling coating of rust is not considered objectionable. Loose, scaling rust shall be removed by rubbing with burlap, wire brushing, blast cleaning or other methods approved by the Engineer.

(c) Placement & Finishing of Concrete Repair:

(1) Grout Placement. After the repair areas have been cleaned and immediately prior to concrete placement, the grout shall be applied to a dampened surface. A thin layer of grout shall be thoroughly scrubbed into the deck surface. All vertical as well as horizontal surfaces shall receive a thorough, even coating. The rate of grout placement shall be limited so the brushed grout does not dry out before it is covered with concrete. Grout that has become dry and chalky shall be blast cleaned and replaced at the Contractor's expense. No concrete shall be placed over dry grout.

(2) Concrete Placement.

The concrete shall be placed and consolidated according to Article 503.07 and as herein specified. Article 1020.14 (b) shall apply, except for the requirement to use an approved retarding admixture when the plastic concrete reaches 30°C (85°F).

When an overlay system is not specified, the patches shall be finished according to Article 503.17 (c)(2)a., followed by a light brooming.

(d) Curing and Protection.

Concrete patches shall be cured by the Wetted Burlap or Wetted Cotton Mat Method according to Article 1020.13 (a)(3). The curing period shall be 3 days for Class PP-1, PP-2, PP-3, and PP-4 concrete. The curing period shall be 7 days for Class BD concrete. In addition to Article 1020.13, when the air temperature is less than 13° C (55° F), the Contractor shall cover the patch with minimum R12 insulation. Insulation is optional when the air temperature is 13° C - 32° C (55° F. - 90° F). Insulation shall not be placed when the air temperature is greater than 32° C (90° F). A 72-hour minimum drying period shall be required before placing waterproofing or bituminous surfacing.

(e) Opening to Traffic.

No traffic will be permitted on a patch until after the specified cure period, and the concrete has obtained a minimum compressive strength of 27.6 MPa (4000 psi) or flexural strength of 4.65 MPa (675 psi).

Construction equipment will be permitted on a patch during the cure period if the concrete has obtained the minimum required strength. In this instance, the strength specimens shall be cured with the patch.

Method of Measurement.

When specified, bituminous surface removal and full or partial depth repairs will be measured for payment and computed in square meters (square yards).

Basis of Payment.

The bituminous concrete surface removal will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE REMOVAL (DECK). Areas removed and replaced up to and including a depth of half the concrete deck thickness will be paid for at the contract unit price per square meter (square yard) for DECK SLAB REPAIR (PARTIAL). Areas requiring removal greater than a depth of half the concrete deck thickness shall be removed and replaced full depth and will be paid for at the contract unit price per square meter (square yard) for DECK SLAB REPAIR (FULL DEPTH, TYPE I) and/or DECK SLAB REPAIR (FULL DEPTH, TYPE II).

When corroded reinforcement bars are encountered in the performance of this work and replacement is required, the Contractor will be paid according to Article 109.04.

No payment will be allowed for removal and replacement of reinforcement bars damaged by the Contractor in the performance of his/her work or for any increases in dimensions needed to provide splices for these replacement bars.

Removal and disposal of asbestos waterproofing and/or asbestos bituminous concrete will be paid for as specified in the Special Provision for "Asbestos Waterproofing Membrane or Asbestos Bituminous Concrete Surface Removal".

**TEMPORARY SHEET PILING**

Effective: September 2, 1994

Revised: December 13, 2002

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 265 MPa (38.5 ksi) 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 300 mm (12 in.) 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 its 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 meters (square feet). 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 meter (square foot) 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.

### **DRILLED SOLDIER PILE RETAINING WALL**

Effective: September 20, 2001

Revised: March 30, 2005

Description. This work shall consist of providing all labor, materials, and equipment necessary to fabricate and furnish the soldier piles, create and maintain the shaft excavations, set and brace the soldier piles into position and encase the soldier piles in concrete to the specified elevation. Also included in this work is the backfilling of the remainder of the shaft excavation with Controlled Low-Strength Material (CLSM), the furnishing and installation of the timber lagging, and the furnishing and installation of CLSM secant lagging. All work shall be according to the details shown on the plans and as directed by the Engineer.

The remainder of the retaining wall components as shown on the plans, such as concrete facing, shear studs, reinforcement bars, tie backs, hand rails, and various drainage items etc., are not included in this Special Provision but are paid for as specified elsewhere in this Contract.

Materials. The materials used for the soldier piles and lagging shall satisfy the following requirements:

- (a) The structural steel components for the soldier piles shall conform to the requirements of AASHTO M270, Grade 250 (36), unless otherwise designated on the plans.
- (b) The soldier pile encasement concrete shall be portland cement concrete according to Section 1020, except the mix design shall be as follows:
  - (1) A Type I or II cement shall be used at 395 kg/cu m (665 lb/cu yd). When the plans specify that soil and ground water sulfate contaminates exceed 500 parts per million, a Type V cement shall be required. The cement shall be increased 35 kg/cu m (60 lb/cu yd) if the concrete is to be placed under water.
  - (2) Class C or F fly ash may replace Type I or II cement. The cement replacement shall not exceed 15 percent by mass (weight) at a minimum replacement ratio of 1.5:1. The fly ash shall not be used in combination with ground granulated blast-furnace slag.
  - (3) Grade 100 or 120 ground granulated blast-furnace slag may replace Type I or II cement. The cement replacement shall not exceed 25 percent by mass (weight) at a minimum replacement ratio of 1:1. The ground granulated blast-furnace slag shall not be used in combination with fly ash.



- (4) The maximum water/cement ratio shall be 0.44.
  - (5) The mortar factor shall be a value which produces a coarse aggregate content comprising between 55 and 65 percent of total aggregate by mass (weight).
  - (6) The slump at point of placement shall be 175 mm  $\pm$  25 mm (7  $\pm$  1 in.). If concrete is placed to displace drilling fluid or against temporary casing, the slump shall be 200 mm  $\pm$  25 mm (8  $\pm$  1 in.) at point of placement. The concrete mix shall be designed to remain fluid throughout the anticipated duration of the pour plus 1 hour.
  - (7) An air entraining admixture shall be required and the air content range shall be 4.0 to 7.0 percent.
  - (8) The minimum compressive strength shall be 27,500 kPa (4000 psi) at 14 days. The minimum flexural strength shall be 4,650 kPa (675 psi) at 14 days.
  - (9) A retarding admixture shall be required.
  - (10) A water-reducing or high range water-reducing admixture shall be required.
  - (11) An accelerating admixture may be used with the permission of the Engineer in extraordinary situations.
  - (13) The coarse aggregate shall be CA 13, CA 14, CA 16 or a blend of these gradations. The fine aggregate shall consist of sand only according to Article 1003.01(a).
- (c) The Controlled Low-Strength Material (CLSM), used for backfilling shaft excavations above the soldier pile encasement concrete and for backfilling secant lagging excavations, to the existing ground surface, shall be according to the Recurring Special Provisions for CLSM.
- (d) Temporary casing shall be produced by electric seam, butt, or spiral welding to produce a smooth wall surface, fabricated from steel satisfying ASTM A252 Grade 2. The minimum wall thickness shall be as required to resist the anticipated installation and dewatering stresses, as determined by the Contractor, but in no case less than 6 mm (1/4 in.).
- (e) Drilling slurry shall consist of a polymer or mineral base material. Mineral slurry shall have both a mineral grain size that will remain in suspension with sufficient viscosity and gel characteristics to transport excavated material to a suitable screening system. The percentage and specific gravity of the material used to make the suspension shall be sufficient to maintain the stability of the excavation and to allow proper concrete placement. For polymer slurry, the calcium hardness of the mixing water shall not exceed 100 mg/L.
- (f) Timber Lagging. The minimum tabulated unit stress in bending ( $F_b$ ), used for the design of the timber lagging, shall be 6.9 MPa (1000 psi) unless otherwise specified on the plans. When treated timber lagging is specified on the plans, the method of treatment shall be according to Article 1007.12.

Equipment. The drilling equipment shall have adequate capacity, including power, torque and down thrust, to create a shaft excavation of the maximum diameter specified to a depth of 20 percent beyond the depths shown on the plans. Concrete equipment shall be according to Article 1020.03.

Construction Requirements. The shaft excavation for each soldier pile shall extend to the tip elevation indicated on the plans for soldier piles terminating in soil or to the required embedment in rock when rock is indicated on the contract plans. The Contractor shall satisfy the following requirements:

- (a) Drilling Methods. The soldier pile installation may involve the use of one or more of the following drilling methods to maintain excavation side wall stability during the various phases of shaft excavation and concrete placement, dependent on the site conditions encountered:
  - (1) Dry Method. The dry method consists of drilling the shaft excavation, removing accumulated water and loose material from the excavation, placing the soldier pile and concrete in a predominately dry excavation. This method shall be used only at sites where the groundwater and soil conditions are suitable to permit the drilling and dewatering of the excavation without causing excessive water infiltration, boiling, squeezing, or caving of the excavation side walls. This method allows the concrete placement by tremie or concrete pumps, or if the excavation can be dewatered, the concrete can be placed by free fall.
  - (2) Wet Method. The wet construction method may be used at sites where dewatering the excavation would cause collapse of the excavation sidewalls or when the volume and head of water flowing into the shaft excavation is likely to contaminate the concrete during placement. This method uses water or slurry to maintain stability of the shaft perimeter while advancing the excavation. After the excavation is completed, the water level in the shaft is allowed to seek equilibrium, the base is cleaned, the soldier pile is set and the concrete is discharged at the base using a tremie pipe or concrete pump, displacing the drilling fluid upward.
  - (3) Temporary Casing Method. Temporary casing shall be used when either the wet or dry methods provide inadequate support to prevent sidewall caving or to ensure there is not excessive deformation of the hole. Temporary casing may also be used to reduce the flow of water into the excavation to allow dewatering, adequate cleaning, or to ensure proper concrete placement.

Temporary casing will not be allowed to remain permanently in place without the approval of the Engineer. Before the temporary casing is broken loose, the level of soldier pile encasement concrete in the casing shall be a minimum of 1.5 m (5 ft) above the bottom of the casing. After being broken loose, and as the casing is withdrawn, additional concrete shall be added to maintain sufficient head so that water and soil trapped behind the casing can be displaced upward and discharged at the ground surface.

No shaft excavation shall be made adjacent to a soldier pile with encasement concrete that has a compressive strength less than 10.35 MPa (1500 psi), nor adjacent to secant lagging until the CLSM has reach sufficient strength to maintain it's position and shape unless otherwise approved by the Engineer. Materials removed or generated from the shaft excavations shall be disposed of by the Contractor according to Article 202.03. Excavation by blasting will not be permitted.

- (b) Drilling Slurry. During construction, the level of the slurry shall be maintained at a height sufficient to prevent caving of the hole. In the event of a sudden or significant loss of slurry to the hole, the construction of that shaft shall be stopped and the shaft excavation backfilled or supported by temporary casing until a method to stop slurry loss, or an alternate construction procedure, has been developed and approved by the Engineer.
- (c) Obstructions. Obstructions shall be defined as any object (such as but not limited to, boulders, logs, old foundations, etc.) that cannot be removed with normal earth drilling procedures, but requires special augers, tooling, core barrels or rock augers to remove the obstruction. When obstructions are encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to core, break up, push aside, or remove the obstruction. Lost tools or equipment in the excavation, as a result of the Contractor's operation, shall not be defined as obstructions and shall be removed at the Contractor's expense.
- (d) Top of Rock. The actual top of rock will be defined as the point where material is encountered which can not be drilled with a conventional earth auger and/or under-reaming tool, and requires the use of special rock augers, core barrels, air tools or other methods of hand excavation.
- (e) Design Modifications. If the top of rock elevation encountered is below that estimated on the plans, such that the soldier pile length above rock is increased by more than 10 percent, the Engineer shall be contacted to determine if any soldier pile design changes are required. In addition, if the type of soil or rock encountered is not similar to that shown in the subsurface exploration data, the Engineer shall be contacted to determine if revisions are necessary.
- (f) Soldier Pile Fabrication and Placement. The soldier pile is defined as the structural steel section(s) shown on the plans as well as any connecting plates used to join multiple sections. Cleaning and painting of all steel components, when specified, shall be as shown on the plans and accomplished according to the special provision for "Cleaning and Painting New Metal Structures". This work will not be paid for separately, but shall be considered included in the cost of Furnishing Soldier Piles of the type specified.

The soldier pile shall be shop fabricated such that no field welding is required. The Contractor shall attach suitable bracing or support to maintain the position of the soldier pile within the shaft excavation such that the final location will satisfy the Construction Tolerances portion of this Special Provision. The bracing or supports shall remain in place until the concrete for encasement has reached a minimum compressive strength of 10.35 MPa (1500 psi).

When embedment in rock is indicated on the plans, modification to the length of a soldier pile may be required to satisfy the required embedment. The modification shall be made to the top of the soldier pile unless otherwise approved by the Engineer. When the top of rock encountered is above the estimated elevation indicated on the plans, the soldier piles shall be cut to the required length. If the top of rock encountered is below that estimated on the plans, the Contractor shall either furnish longer soldier piles or splice on additional length of soldier pile per Article 512.05(b) to satisfy the required embedment in rock. In order to avoid delays, the Contractor may have additional soldier pile sections fabricated as necessary to make the required adjustments. Additional soldier pile quantities, above those shown on the plans, shall not be furnished without prior written approval by the Engineer.

- (g) Concrete Placement. Concrete work shall be performed according to the applicable portions of Section 503 and as specified herein.

The soldier pile encasement concrete pour shall be made in a continuous manner from the bottom of the shaft excavation to the elevation indicated on the plans. Concrete shall be placed as soon as possible after the excavation is completed and the soldier pile is secured in the proper position. Uneven levels of concrete placed in front, behind, and on the sides of the soldier pile shall be minimized to avoid soldier pile movement, and to ensure complete encasement. Concrete shall be placed either by free fall, or through a tremie or concrete pump subject to the following conditions:

- (1) The free fall placement shall only be permitted in shaft excavations that can be dewatered without causing side wall instability and where no more than 75 mm (3 in.) of standing water exists at the time of concrete placement. The maximum height of free fall placement shall not exceed 18.3 m (60 ft.) and the concrete shall be directed to the base to minimize contact with either the soldier pile or the shaft excavation side wall. Drop chutes may be used to direct concrete to the base during free fall placement.
- (2) Tremies shall be according to Article 503.08 and contain no aluminum parts that may have contact with the concrete. The inside and outside surfaces of the tremie shall be clean and smooth to permit both flow of the concrete and unimpeded withdrawal during concrete placement.
- (3) Concrete pumps. Pumps and lines may be used for concrete placement and shall have a minimum 100 mm (4 in.) diameter.

The tremie or pump lines used for wet method concrete placement shall be watertight and shall not begin discharge until placed within 250 mm (10 in.) of the base of the excavation. Valves, bottom plates or plugs may be used only when they can be removed from the excavation unless approved by the Engineer. The discharge end shall be immersed at least 1.5 m (5 ft.) in concrete at all times after starting the pour.

Following the soldier pile encasement concrete pour, the remaining portion of the shaft excavation shall be backfilled with CLSM.

CLSM Secant lagging placement shall be placed as soon as practical after the shaft excavation is cleared.

- (h) Construction Tolerances. The soldier piles shall be drilled and located within the excavation to satisfy the following tolerances:
- (1) The center of the soldier pile shall be within 38 mm (1 1/2 in.) of plan station and 13 mm (½ in.) offset at the top of the shaft.
  - (2) The out of vertical plumbness of the soldier pile shall not exceed 0.83 percent.
  - (3) The top of the soldier pile shall be within  $\pm 25$  mm ( $\pm 1$  in.) of the plan elevation.
- (i) Timber Lagging. Timber lagging, when required by the plans, installed below the original ground surface, shall be placed from the top down as the excavation proceeds. Lagging shown above grade shall be installed and backfilled against prior to installing any permanent facing to minimize post construction deflections. Over-excavation required to place the timber lagging behind the flanges of the soldier piles shall be the minimum necessary to install the lagging. When the plans require the Contractor to design the timber lagging, the design shall be based on established practices published in FHWA or AASHTO documents considering lateral earth pressure, construction loading, traffic surcharges and the lagging span length(s). The nominal thickness of the lagging selected shall not be less than 75 mm (3 in.) and shall satisfy the minimum tabulated unit stress in bending (Fb) stated elsewhere in this Special Provision. The Contractor shall be responsible for the successful performance of the lagging system until the concrete facing is installed. When the nominal timber lagging thickness(s) and allowable stress are specified on the plans, the timber shall be rough cut or surfaced and in accordance with Article 1007.03.
- (j) Structure Excavation. When structure excavation is necessary to place a concrete facing, it shall be made and paid for according to Section 502 except that the horizontal limits for structure excavation shall be from the face of the soldier pile to a vertical plane 600 mm (2 ft) from the finished face of the wall. The depth shall be from the top of the original ground surface to the bottom of the concrete facing. The additional excavation necessary to place the lagging whether through soil or CLSM shall be included in this work.
- (k) Geocomposite Wall Drain. When required by the plans, the geocomposite wall drain shall be installed and paid for according to Section 591 except that, in the case where a concrete facing is specified on the plans, the wall drain shall be installed on the concrete facing side of the timber lagging with the pervious (fabric) side of the drain installed to face the timber. When a concrete facing is not specified on the plans, the pervious (fabric) side of the drain shall be installed to face the soil. In this case, the drain shall be installed in stages as the timber lagging is installed. The wall drain shall be placed in sections and spliced, or kept on a continuous roll, so that as each timber is placed, the drain can be properly located as the excavation proceeds.

Method of Measurement. The furnishing of soldier piles will be measured for payment in meters (feet) along the centerline of the soldier pile for each of the types specified. The length shall be determined as the difference between the plan top of soldier pile and the final as built shaft excavation bottom.

The drilling and setting of soldier piles in soil and rock, will be measured for payment and the volumes computed in cubic meters (cubic feet) for the shaft excavation required to set the soldier piles according to the plans and specifications, and accepted by the Engineer. These volumes shall be the theoretical volumes computed using the diameter(s) of the shaft(s) shown in the plans and the depth of the excavation in soil and/or rock as appropriate. The depth in soil will be defined as the difference in elevation between the ground surface at the time of concrete placement and the bottom of the shaft excavation or the top of rock (when present), whichever is encountered first. The depth in rock will be defined as the difference in elevation between the measured top of rock and the bottom of the shaft excavation.

Drilling and placing CLSM secant lagging shall be measured for payment in cubic meters (cubic feet) of the shaft excavation required to install the secant lagging as shown in the plans. This volume shall be the theoretical volume computed using the diameter(s) shown on the plans and the difference in elevation between the as built shaft excavation bottom and the ground surface at the time of the CLSM placement.

Timber lagging shall be measured for payment in square meters (square feet) of timber lagging installed to the limits as shown on the plans. The quantity shall be calculated using the minimum lagging length required on the plans multiplied by the as installed height of timbers, for each bay of timber lagging spanning between the soldier piles.

Basis of Payment. The furnishing of soldier piles will be paid for at the contract unit price per meter (foot) for FURNISHING SOLDIER PILES, of the type specified, for the total number of meters (feet) furnished to the job site. The cost of any field splices required due to changes in top of rock elevation shall be paid for according to Article 109.04.

The drilling and setting of soldier piles will be paid for at the contract unit price per cubic meter (cubic foot) for DRILLING AND SETTING SOLDIER PILES (IN SOIL) and DRILLING AND SETTING SOLDIER PILES (IN ROCK). The required shaft excavation, soldier pile encasement concrete and any CLSM backfill required around each soldier pile will not be paid for separately but shall be included in this item.

The timber lagging will be paid for at the contract unit price per square meter (square foot) for UNTREATED TIMBER LAGGING, or TREATED TIMBER LAGGING as detailed on the plans.

The secant lagging will be paid for at the contract unit price per cubic meter (cubic foot) for SECANT LAGGING. The required shaft excavation and CLSM backfill required to fill that excavation shall be included in this item.

Obstruction mitigation shall be paid for according to Article 109.04.

No additional compensation, other than noted above, will be allowed for removing and disposing of excavated materials, for furnishing and placing concrete, bracing, lining, temporary casings placed and removed or left in place, or for any excavation made or concrete placed outside of the plan diameter(s) of the shaft(s) specified.

## **TEMPORARY SOIL RETENTION SYSTEM**

Effective: December 30, 2002

Description. This work shall consist of designing, furnishing, installing, adjusting for stage construction when required and subsequent removal of the temporary soil retention system according to the dimensions and details shown on the plans and in the approved design submittal.

General. The temporary soil retention system shall be designed by the Contractor as a minimum, to retain the exposed surface area specified in the plans or as directed by the Engineer.

The design calculations and details for the temporary soil retention system proposed by the Contractor 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.

Construction. The Contractor shall verify locations of all underground utilities before installing any of the soil retention system components or commencing any excavation. 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 soil retention system shall be installed according to the Contractor's approved design, or as directed by the Engineer, prior to commencing any related excavation. If unable to install the temporary soil retention system as specified in the approved design, the Contractor shall have the adequacy of the design re-evaluated. Any reevaluation shall be submitted to the Engineer for approval prior to commencing the excavation adjacent to the area in question. The Contractor shall not excavate below the maximum excavation line shown in the approved design without the prior permission of the Engineer. The temporary soil retention system shall remain in place until the Engineer determines it is no longer required.

The temporary soil retention system 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 temporary soil retention system leaving the remainder in place. The remaining temporary soil retention system shall be removed to a depth which will not interfere with the new construction, and as a minimum, to a depth of 300 mm (12 in.) below the finished grade, or as directed by the Engineer. Removed system components 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 its presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven or installed through or around, with normal driving or installation procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary soil retention system furnished and installed according to the Contractor's approved design or as directed by the Engineer will be measured for payment in place, in square meters (square feet). The area measured shall be the vertical exposed surface area envelope of the excavation supported by temporary soil retention system.

Any temporary soil retention system cut off, left in place, or installed beyond those dimensions shown on the contract plans or the approved contractor's design without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's own expense.

Basis of Payment. This work will be paid for at the contract unit price per square meter (square foot) for TEMPORARY SOIL RETENTION SYSTEM.

Payment for any excavation, related solely to the installation and removal of the temporary soil retention system and/or its components, shall not be paid for separately but shall be included in the unit bid price for TEMPORARY SOIL RETENTION SYSTEM. Other 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.

#### **FORMED CONCRETE REPAIR**

Effective: October 10, 1995

Revised: February 7, 2005

This work consists of removing and disposing of all deteriorated concrete and replacing it with new concrete at the locations specified on the plans and as directed by the Engineer. The concrete shall have a minimum compressive strength as specified on the plans but not less than that specified for class SI concrete. This work shall also include the construction of necessary formwork and scaffolding and installing supplemental reinforcement bars and expansion bolts as directed by the Engineer.

The materials and construction methods shall conform to the applicable provisions of Sections 503 and 508 of the Standard Specifications. The coarse aggregate for Class SI concrete shall be gradation CA 16 only, the cement factor shall be a minimum 395 kg/ cu m (6.65 cwt/ cu yd), and a high range water-reducing admixture shall be used to obtain a 125-175 mm (5-7 in.) slump.

Construction Methods. The areas to be repaired shall have all loose, unsound concrete removed completely by the use of an electric chisel or other mechanical tools approved by the Engineer. All reinforcing bars within the repair area shall be undercut to a depth that will permit a minimum of 25 mm (1 in.) of plastic concrete under the reinforcing bars. When removing the existing concrete the Contractor shall provide a 25 mm (1 in.) deep saw cut along the outside edges of the repair area.

Existing reinforcement bars shall be cleaned by sandblasting. After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required.



Reinforcing bars that have been cut or have lost 25 percent or more of their original cross sectional area shall be supplemented by new inkind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. An approved "squeeze type" mechanical bar splicer capable of developing in tension at least 125 percent of the yield strength of the existing bar shall be used when it is not feasible to provide the minimum bar lap. No welding of bars will be permitted. The furnishing and replacing of supplemental reinforcement bars shall be included in this item.

The formwork shall provide a smooth and uniform concrete finish most nearly matching the existing surface of the concrete structures. Formwork shall be completely mortar tight and closely fitted where they adjoin the existing concrete surface to prevent leakage. Air vents may be provided to reduce voids and improve surface appearance. The Contractor shall use exterior mechanical vibration, as approved by the Engineer, to release air pockets that may be entrapped.

Prior to placing the new concrete the Contractor shall prepare the surface of the existing concrete against which the new concrete is placed by sand, air or water blasting. The surface shall be free of oil, dirt and loose concrete. Just prior to concrete placement the surface shall be thoroughly wetted to a saturated surface dry condition or as directed by the Engineer.

Curing shall be done according to the applicable portions of Article 1020.13 of the Standard Specifications and as directed by the Engineer.

All areas of repair, under this item shall have a minimum concrete thickness of 25 mm (1 in.).

The Contractor shall anchor the new concrete to the existing concrete with 20 mm (3/4 in.) diameter expansion hook bolts for all overhead repair areas and wherever the depth of concrete removal is greater than 205 mm (8 in.). The expansion hook bolts shall be spaced at 380 mm (15 in.) maximum centers both vertically and horizontally. The furnishing and placing of the expansion hook bolts shall be included in this item.

At all locations, where the removal of deteriorated concrete reaches a total depth including all sides greater than 300 mm (12 in.) or half the depth of the member, the Bureau of Bridges and Structures shall be contacted for structural evaluation.

Method of Measurement. The completed formed concrete repair, accepted by the Engineer, will be measured in square meters (square feet). The computed area will include the formed and/or finished surface areas.

Basis of Payment. The above specified work shall be paid for at the contract unit prices per square meter (square foot) for FORMED CONCRETE REPAIR (DEPTH GREATER THAN 125 mm (5 in.)) and/or FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 125 mm (5 in.)) which prices shall include all labor and materials necessary to complete the work in place.

## **AUTHORITY OF RAILROAD ENGINEER (BDE)**

Effective: July 1, 2004

Revise Article 105.02 of the Standard Specifications to read:

**"105.02 Authority of Railroad Engineer.** Whenever the safety of railroad traffic is concerned, the Railroad Engineer will have jurisdiction over safety measures to be taken and his/her decision as to the methods, procedures, and measures used shall be final, and any and all Contractors performing work near or about the railroad shall be governed by such decision. Instructions to the Contractor by the Railroad Engineer will be given through the Engineer. Work ordered as specified herein will be classified and paid for according to Article 104.02. Work performed for the Contractor's convenience will not be paid for separately but shall be considered as included in the contract."

## **BITUMINOUS BASE COURSE / WIDENING SUPERPAVE (BDE)**

Effective: April 1, 2002

Revised: August 1, 2005

Description. This work shall consist of constructing bituminous base course Superpave and bituminous concrete base course widening Superpave according to Sections 355 and 356 respectively, of the Standard Specifications and the special provision, "Quality Control/Quality Assurance of Bituminous Concrete Mixtures" except as modified herein.

Revise Article 355.02(d) of the Standard Specifications to read:

"(d) RAP Material (Note 3)"

Revise Note 2 of Article 355.02 of the Standard Specifications to read:

"Note 2. Unless otherwise specified on the plans, the bituminous material shall be performance graded (PG) asphalt cement (AC) , PG58-22. When more than 15 percent RAP is used, a softer PG binder may be required as determined by the Engineer. When the pavement has a structural number (D<sub>s</sub>) of 3.00 or less, the low temperature grade of the asphalt cement shall be lowered one grade (i.e. PG58-28 replaces PG58-22)."

Add the following to the end Article 355.02 of the Standard Specifications:

"Note 3. RAP shall meet the requirements of the special provision "RAP for Use in Bituminous Concrete Mixtures"."

Revise Article 355.05 of the Standard Specifications to read:

**"355.05 Mixture Design.** The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have completed the course, "Superpave Mix Design Upgrade". The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below:

AASHTO MP 2 Standard Specification for Superpave Volumetric Mix Design

- AASHTO R 30 Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
- AASHTO PP 28 Standard Practice for Designing Superpave HMA
- AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
- AASHTO T 312 Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
- AASHTO T 308 Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Job Mix Formula (JMF). The JMF shall be according to the following limits:

<u>Ingredient</u>	<u>Percent by Dry Weight</u>
Aggregate.....	93.0 to 96.0
Asphalt Cement.....	4.0 to 7.0
Dust/AC Ratio .....	1.4

When RAP material is being used, the JMF shall be according to the following limits:

<u>Ingredient</u>	<u>Percent by Dry Weight</u>
Virgin Aggregate(s) .....	46.0 to 96.0
RAP Material(s) (Note 1).....	0 to 50
Mineral Filler (if required) .....	0 to 5.0
Asphalt Cement.....	4.0 to 7.0
Dust/AC Ratio .....	1.4

Note 1. If specified on the plans, the maximum percentage of RAP shall be as specified therein.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

Bituminous concrete binder course Superpave mixture IL-25.0 or IL-19.0 meeting the requirements of the special provision, "Superpave Bituminous Concrete Mixtures" may also be used. The minimum compacted lift thickness specified therein shall apply.

(b) Volumetric Requirements.

<b>Design Compactive Effort</b>	<b>Design Air Voids Target (%)</b>
$N_{DES} = 50$	2.0

- (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 using 4 in. Marshall bricks. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSR) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSR values less than 0.75 will be considered unacceptable.

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. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications."

Revise Article 355.06 of the Standard Specifications to read:

**"355.06 Mixture Production.** The asphalt cement shall be transferred to the asphalt tanks and heated to a temperature of 120 °C (250 °F) to 175 °C (350 °F). If the loading temperature exceeds 175 °C (350 °F), the asphalt shall not be used until it has cooled to 175 °C (350 °F). Wide variations in temperature which affect the amount of asphalt delivered will not be permitted.

When a hot-mix plant conforming to Article 1102.01 is used, the aggregate shall be dried and heated in the revolving dryer to a temperature of 120 °C (250 °F) to 175 °C (350 °F).

The aggregate and bituminous material used in the bituminous aggregate mixture shall be measured separately and accurately by weight or by volume. When the aggregate is in the mixer, the bituminous material shall be added and mixing continued for a minimum of 30 seconds and until a homogeneous mixture is produced in which all particles of the aggregate are coated. The mixing period, size of the batch and the production rate shall be approved by the Engineer.

The ingredients shall be heated and combined in such a manner as to produce a mixture which, when discharged from the mixer, shall be workable and vary not more 10 °C (20 °F) from the temperature set by the Engineer.

When RAP material(s) is used in the bituminous aggregate mixture, the virgin aggregate(s) shall be dried and heated in the dryer to a temperature that will produce the specified resultant mix temperature when combined with the RAP material.

The heated virgin aggregates and mineral filler shall be combined with RAP material in such a manner as to produce a bituminous mixture which when discharged from the mixer shall not vary more than 15 °C (30 °F) from the temperature set by the Engineer. The combined ingredients shall be mixed for a minimum of 35 seconds and until a homogeneous mixture as to composition and temperature is obtained. The total mixing time shall be a minimum of 45 seconds consisting of dry and wet mixing. Variation in wet and dry mixing times may be permitted, depending on the moisture content and amount of salvaged material used. The mix temperature shall not exceed 175 °C (350 °F). Wide variations in the mixture temperature will be cause for rejection of the mix.

- (a) Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".
- (b) Required Tests. Testing shall be conducted to control the production of the bituminous mixture using the test methods identified and performed at a frequency not less than indicated in the following table.

Parameter	Frequency of Tests Non-Class I Mixtures	Test Method
Aggregate Gradation  Hot bins for batch and continuous plants.  Individual cold-feeds or combined belt-feed for drier-drum plants.  (% passing sieves: 12.5 mm (1/2 In.), 4.75 mm (No. 4), 75 µm (No. 200))	1 gradation per day of production.  The first day of production shall be washed ignition oven test on the mix. Thereafter, the testing shall alternate between dry gradation and washed ignition oven test on the mix.  The dry gradation and the washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by ignition oven (Note 1.)	1 per day	Illinois-Modified AASHTO T 308
Air Voids		
Bulk Specific Gravity of Gyratory Sample	1 per day	Illinois-Modified AASHTO T 312
Maximum Specific Gravity of Mixture	1 per day	Illinois-Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine AC content.

During production, the ratio of minus 75  $\mu\text{m}$  (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.6, and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75  $\mu\text{m}$  (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resumption of production.

During production, mixture containing an anti-stripping additive will be tested by the Engineer for stripping according to Illinois Modified AASHTO T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

- (c) Control Charts/Limits. Control charts/limits shall be according to QC/QA requirements for Non-Class I Mixtures, except air voids and density shall be plotted on the control charts within the following control limits:

Individual Test Control Limits	
Voids	$\pm 1.2\%$
Density <sup>1/</sup>	93.0 – 97.4% of $G_{mm}$

- 1/ Except when placed as first lift over unimproved subgrade. When the exception applies, the first lift over unimproved subgrade shall be compacted to an average density of not less than 95 percent nor greater than 102 percent of the target density obtained on the growth curve.

Revise Article 355.08 of the Standard Specifications to read:

**“355.08 Placing.** The bituminous mixture shall be placed with a spreading and finishing machine. The minimum compacted thickness of each lift shall be according to the following table:

Nominal Maximum Aggregate Size of Mixture	Minimum Compacted Lift Thickness
CA 10 - 19 mm (3/4 in.)	57 mm (2 1/4 in.)
CA 6 – 25 mm (1 in.)	76 mm (3 in.)

The maximum compacted thickness of each lift shall be 100 mm (4 in.). If the Contractor elects to substitute an approved vibratory roller for one of the required rollers, the maximum compacted thickness of the each lift, excluding the top lift, may be increased to 150 mm (6 in.) provided the required density is obtained.

The surface of each lift shall be clean and dry before succeeding lifts are placed.”

Revise Article 355.13 of the Standard Specifications to read:

**"355.13 Basis of Payment.** This work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS BASE COURSE SUPERPAVE of the thickness specified."

Revise Article 356.02 of the Standard Specifications to read:

**"356.02 Materials.** The materials for the bituminous concrete mixture shall meet the requirements of Article 355.02, be designed according to Article 355.05 and produced according to Article 355.06. Bituminous concrete binder course Superpave mixture IL-25.0 or IL-19.0 meeting the requirements of the special provision, "Superpave Bituminous Concrete Mixtures" may also be used. The minimum compacted lift thickness specified therein shall apply."

Revise the first paragraph of Article 356.06 of the Standard Specifications to read:

**"356.06 Base Course Widening.** The bituminous concrete mixture shall be transported according to Article 406.14."

Revise the second sentence of the fifth paragraph of Article 356.06 of the Standard Specifications to read:

“The minimum compacted thickness of each lift shall be according to the table shown in Article 355.08.”

Revise the first paragraph of Article 356.11 of the Standard Specifications to read:

**"356.11 Basis of Payment.** Where the Department requires that bituminous concrete be used, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE BASE COURSE WIDENING SUPERPAVE of the thickness specified."

## **BITUMINOUS EQUIPMENT, SPREADING AND FINISHING MACHINE (BDE)**

Effective: January 1, 2005

Revise the fourth paragraph of Article 1102.03 of the Standard Specifications to read:

“The paver shall be equipped with a receiving hopper having sufficient capacity for a uniform spreading operation. The hopper shall be equipped with a distribution system to uniformly place a non-segregated mixture in front of the screed. The distribution system shall have chain curtains, deflector plates, and/or other devices designed and built by the paver manufacturer to prevent segregation during distribution of the mixture from the hopper to the paver screed. The Contractor shall submit a written certification that the devices recommended by; the paver manufacturer to prevent segregation have been installed and are operational. Prior to paving, the Contractor, in the presence of the Engineer, shall visually inspect paver parts specifically identified by the manufacturer for excessive wear and the need for replacement. The Contractor shall supply a completed check list to the Engineer noting the condition of the parts. Worn parts shall be replaced. The Engineer may require an additional inspection prior to the placement of a surface course or at other times throughout the work.”

## **CHAIR SUPPORTS (BDE)**

Effective: November 1, 2002

Revised: November 2, 2002

Revise the fourth and fifth paragraphs of Article 421.06(a) to read:

“Pavement reinforcement shall be supported on steel chair supports at the depth below the pavement surface as indicated on the plans. The Contractor shall submit prints of shop drawings showing details of chair supports and their spacing to the Engineer and obtain the Engineer's approval before any fabrication is begun.

The chair supports shall possess the necessary rigidity and be spaced at intervals close enough to hold the reinforcement at the proper depth and position. However, the spacing of the chair supports shall not exceed 900 mm (3 ft) transversely or 1.2 m (4 ft) longitudinally. The chair supports shall be fabricated with sand plates.”

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**COARSE AGGREGATE FOR TRENCH BACKFILL, BACKFILL AND BEDDING (BDE)**

Effective: April 1, 2001

Revised: November 1, 2003

Revise Article 208.02 of the Standard Specifications to read:

**“208.02 Materials.** Materials shall be according to the following Articles of Section 1000 –  
Materials:

- (a) Fine Aggregate (Note 1)..... 1003.04
- (b) Coarse Aggregate (Note 2) ..... 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer.”

Revise the first sentence of the second paragraph of subparagraph (b) in Article 208.03 of the Standard Specifications to read:

"Any material meeting the requirements of Articles 1003.04 or 1004.06 which has been excavated from the trenches shall be used for backfilling the trenches."

Add the following to the end of Article 542.02 of the Standard Specifications:

- “(bb) Fine Aggregate (Note 1)..... 1003.04
- (cc) Coarse Aggregate (Note 2) ..... 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer.”

Revise the first and second sentences of the second paragraph of subparagraph (a) of Article 542.04 of the Standard Specifications to read:

"The unstable and unsuitable material shall be removed to a depth determined by the Engineer and for a width of one diameter (or equivalent diameter) of the pipe on each side of the pipe culvert, and replaced with aggregate. Rock shall be removed to an elevation 300 mm (1 ft) lower than the bottom of the pipe or to a depth equal to 40 mm/m (1/2 in./ft) of ultimate fill height over the top of the pipe culvert, whichever is the greater depth, and for a width as specified in (b) below, and replaced with aggregate."

Revise the second paragraph of subparagraph (c) of Article 542.04 of the Standard Specifications to read:

"Well compacted aggregate, at least 100 mm (4 in.) in depth below the pipe culvert, shall be placed the entire width of the trench and for the length of the pipe culvert, except well compacted impervious material shall be used for the outer 1 m (3 ft) at each end of the pipe. When the trench has been widened by the removal and replacement of unstable or unsuitable material, the foundation material shall be placed for a width not less than the above specified widths on each side of the pipe. The aggregate and impervious material shall be approved by the Engineer and shall be compacted to the Engineer's satisfaction by mechanical means."

Revise subparagraph (e) of Article 542.04 of the Standard Specifications to read:

"(e) Backfilling. As soon as the condition of the pipe culvert will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe culvert, except at the outer 1 m (3 ft) at each end of the culvert which shall be backfilled with impervious material. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate and impervious material shall be placed in 200 mm (8 in.) layers, loose measurement. When using PVC, PE, or corrugated metal pipe, the aggregate shall be continued to a height of at least 300 mm (1 ft) above the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means. When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

When using PVC, PE, or corrugated metal pipe a minimum of 300 mm (1 ft) of cover from the top of the pipe to the top of the subgrade will be required.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench shall be backfilled with select material, from excavation or borrow, free from large or frozen lumps, clods or rock, meeting the approval of the Engineer. The material shall be placed in layers not exceeding 200 mm (8 in.) in depth, loose measurement and compacted to 95 percent of the standard laboratory density. Compaction shall be obtained by use of mechanical tampers or with approved vibratory compactors. Before compacting, each layer shall be wetted or dried to bring the moisture content within the limits of 80 to 110 percent of optimum moisture content determined according to AASHTO T 99 (Method C). All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the culvert. The filling of the trench shall be carried on simultaneously on both sides of the pipe. The Contractor may, at his/her expense, backfill the entire trench with aggregate in lieu of select material. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means.

The backfill material for all trenches and excavations made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk shall be according to Section 208. The trench backfill material shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When the trench has been widened for the removal and replacement of unstable or unsuitable material, the backfilling with aggregate and impervious material, will be required for a width of at least the specified widths on each side of the pipe. The remaining width of each layer may be backfilled with select material. Each 200 mm (8 in.) layer for the entire trench width shall be completed before beginning the placement of the next layer."

Revise subparagraph (b) of Article 542.05 of the Standard Specifications to read:

"(b) Embankment. Embankment extending to an elevation of 300 mm (1 ft) over the top of the pipe shall be constructed according to Article 542.04(f), except the material up to the elevation of the center of the pipe and extending to a width of at least 450 mm (18 in.) on each side of the pipe, exclusive of the outer 1 m (3 ft) at each end of the pipe, shall consist of aggregate. At the outer 1 m (3 ft) at each end of the culvert, impervious material shall be used."

Add the following paragraph after the first paragraph of Article 542.10 of the Standard Specifications:

"Trench backfill will be measured for payment according to Article 208.03."

Add the following paragraph after the third paragraph of Article 542.11 of the Standard Specifications:

"Trench backfill will be paid for according to Article 208.04."

Add the following to of Article 550.02 of the Standard Specifications:

"(m) Fine Aggregate (Note 2)..... 1003.04  
(n) Coarse Aggregate (Note 3) ..... 1004.06

Note 2. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 3. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first two sentences of the third paragraph of Article 550.04 of the Standard Specifications to read:

"Well compacted, aggregate bedding material at least 100 mm (4 in.) in depth below the pipe, shall be placed for the entire width of the trench and length of the pipe. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means."

Revise Article 550.07 of the Standard Specifications to read:

**550.07 Backfilling.** As soon as the condition of the pipe will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate backfill material shall be placed in 200 mm (8 in.) layers, loose measurement and compacted to the satisfaction of the Engineer by mechanical means. When using PVC pipe, the aggregate shall be continued to a height of at least 300 mm (12 in.) above the top of the pipe.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench and excavation shall be backfilled to the natural line or finished surface as rapidly as the condition of the sewer will permit. The backfill material shall consist of suitable excavated material from the trench or of trench backfill as herein specified. All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the sewer and shall be compacted to the satisfaction of the Engineer by mechanical means. The filling of the trench shall be carried on simultaneously on both sides of the pipe.

The backfill material for trenches and excavation made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk shall be according to Section 208. The backfill material shall be compacted to 85 percent of standard lab density by mechanical means.

All backfill material up to a height of 300 mm (1 ft) above the pipe shall be deposited in uniform layers not exceeding 200 mm (8 in.) thick, loose measurement. The material in each layer shall be compacted to the satisfaction of the Engineer by mechanical means. The backfilling above this height shall be done according to Method 1, 2 or 3 as described below, with the following exceptions.

When trench backfill or excavated material meeting the requirements of Section 208 is required above the first 300 mm (1 ft) of the pipe, the layers shall not exceed 200 mm (8 in.). Gradations CA6 or CA10 shall not be used with Method 2 or Method 3.

Method 1. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be compacted to the satisfaction of the Engineer by mechanical means.

Method 2. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be either inundated or deposited in water.

Method 3. The trench shall be backfilled with loose material, and settlement secured by introducing water through holes jetted into the backfill to a point approximately 600 mm (2 ft) above the top of the pipe. The holes shall be spaced as directed by the Engineer but shall be no farther than 2 m (6 ft) apart.

The water shall be injected at a pressure just sufficient to sink the holes at a moderate rate of speed. The pressure shall be such that the water will not cut cavities in the backfill material nor overflow the surface. If water does overflow the surface, it shall be drained into the jetted holes by means of shallow trenches.

Water shall be injected as long as it will be absorbed by the backfill material and until samples taken from test holes in the trench show a satisfactory moisture content. The Contractor shall bore the test holes not more than 15 m (50 ft) apart and at such other locations in the trench designated by the Engineer. As soon as the watersoaking has been completed, all holes shall be filled with soil and compacted by ramming with a tool approved by the Engineer.

Backfill material which has been watersoaked shall be allowed to settle and dry for at least 10 days before any surface course or pavement is constructed on it. The length of time may be altered, if deemed desirable, by the Engineer. Where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk, the provisions of this paragraph shall also apply.

At the end of the settling and drying period, the crusted top of the backfill material shall be scarified and, if necessary, sufficient backfill material added, as specified in Method 1, to complete the backfilling operations.

The method used for backfilling and compacting the backfill material shall be the choice of the Contractor. If the method used does not produce results satisfactory to the Engineer, the Contractor will be required to alter or change the method being used so the resultant backfill will be satisfactory to the Engineer. Should the Contractor be required to alter or change the method being used, no additional compensation will be allowed for altering or changing the method.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides firmly in place without caving or settlement. This bracing shall be removed as soon as practicable. Any depressions which may develop within the area involved in the construction operation due to settlement of the backfilling material shall be filled in a manner approved by the Engineer.

When the Contractor constructs the trench with sloped or benched sides according to Article 550.04, backfilling for the full width of the excavation shall be as specified, except no additional compensation will be allowed for trench backfill material required outside the vertical limits of the specified trench width.

Whenever excavation is made for installing sewer pipe across earth shoulders or private property, the topsoil disturbed by excavation operations shall be replaced as nearly as possible in its original position, and the whole area involved in the construction operations shall be left in a neat and presentable condition.

When using any PVC pipe, the pipe shall be backfilled with aggregate to 300 mm (1 ft) over the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means.

When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

**Deflection Testing for Storm Sewers.** All PVC storm sewers will be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted.

For PVC storm sewers with diameters 600 mm (24 in.) or smaller, a mandrel drag shall be used for deflection testing. For PVC storm sewers with diameters over 600 mm (24 in.), deflection measurements other than by a mandrel drag shall be used.

Where the mandrel is used, the mandrel shall be furnished by the Contractor and pulled by hand through the pipeline with a suitable rope or cable connected to each end. Winching or other means of forcing the deflection gauge through the pipeline will not be allowed.

The mandrel shall be of a shape similar to that of a true circle enabling the gauge to pass through a satisfactory pipeline with little or no resistance. The mandrel shall be of a design to prevent it from tipping from side to side and to prevent debris build-up from occurring between the channels of the adjacent fins or legs during operation. Each end of the core of the mandrel shall have fasteners to which the pulling cables can be attached. The mandrel shall have 9, various sized fins or legs of appropriate dimension for various diameter pipes. Each fin or leg shall have a permanent marking that states its designated pipe size and percent of deflection allowable.

The outside diameter of the mandrel shall be 95 percent of the base inside diameter, where the base inside diameter is:

For all PVC pipe (as defined using ASTM D 3034 methodology):

If the pipe is found to have a deflection greater than specified, that pipe section shall be removed, replaced, and retested."

Revise subparagraph (c) of Article 1003.04 of the Standard Specifications to read:

"(c) Gradation. The fine aggregate gradation shall be as follows:

Backfill, bedding and trench backfill for pipe culverts and storm sewers FA 1, FA 2, FA 6, or FA 21  
Porous granular embankment and backfill, french drains, and sand backfill for  
underdrains FA 1, FA 2, or FA20 (Note 1)

Note 1: For FA 1, FA 2, and FA 20 the percent passing the 75 m (No. 200) sieve shall be  $2 \pm 2$ ."

Revise the title of Article 1004.06 of the Standard Specifications to read:

**"Coarse Aggregate for Blotter, Embankment, Backfill, Trench Backfill, French Drains, and Bedding."**

Add the following to the end of subparagraph (c) of Article 1004.06 of the Standard Specifications:

"Backfill, bedding, and trench backfill for pipe culverts and storm sewers CA 6, CA 10, and CA 18"

## **CONCRETE ADMIXTURES (BDE)**

Effective: January 1, 2003

Revised: July 1, 2004

Revise Article 1020.05(b) of the Standard Specifications to read:

"(b) Admixtures. Except as specified, the use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted only when approved in writing by the Engineer. The Department will maintain an Approved List of Concrete Admixtures. When the Department permits the use of a calcium chloride accelerator, it shall be according to Article 442.02, Note 5.

When the atmosphere or concrete temperature is 18 °C (65 °F) or higher, a retarding admixture meeting the requirements of Article 1021.03 shall be used in the Class BD Concrete and portland cement concrete bridge deck overlays. The amount of retarding admixture to be used will be determined by the Engineer. The proportions of the ingredients of the concrete shall be the same as without the retarding admixture except that the amount of mixing water shall be reduced, as may be necessary, in order to maintain the consistency of the concrete as required. In addition, a high range water-reducing admixture shall be used in Class BD Concrete. The amount of high range water-reducing admixture will be determined by the Engineer. At the option of the Contractor, a water-reducing admixture may be used. Type I cement shall be used.

For Class PC and PS Concrete, a retarding admixture may be added to the concrete mixture when the concrete temperature is 18 °C (65 °F) or higher. Other admixtures may be used when approved by the Engineer, or if specified by the contract. If an accelerating admixture is permitted by the Engineer, it shall be the non-chloride type.

At the Contractor's option, admixtures in addition to an air-entraining admixture may be used for Class PP-1 concrete. The accelerator shall be the non-chloride type. If a water-reducing or retarding admixture is used, the cement factor may be reduced a maximum 18 kg/cu m (0.30 hundredweight/cu yd). If a high range water-reducing admixture is used, the cement factor may be reduced a maximum 36 kg/cu m (0.60 hundredweight/cu yd). Cement factor reductions shall not be cumulative when using multiple admixtures. An accelerator shall always be added prior to a high range water-reducing admixture, if both are used.

If Class C fly ash or ground granulated blast-furnace slag is used in Class PP-1 concrete, a water-reducing or high range water-reducing admixture shall be used. However, the cement factor shall not be reduced if a water-reducing, retarding, or high range water-reducing admixture is used. In addition, an accelerator shall not be used.

For Class PP-2 or PP-3 concrete, a non-chloride accelerator followed by a high range water-reducing admixture shall be used, in addition to the air-entraining admixture. For Class PP-3 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-2 or PP-3 concrete, the Contractor has the option to use a water-reducing admixture. A retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

When the air temperature is less than 13 °C (55 °F) for Class PP-1 or PP-2 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-4 concrete, a high range water-reducing admixture shall be used in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture. An accelerator shall not be used. For stationary or truck mixed concrete, a retarding admixture shall be used to allow for haul time. The Contractor has the option to use a mobile portland cement concrete plant according to Article 1103.04, but a retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

If the Department specifies a calcium chloride accelerator for Class PP-1 concrete, the maximum chloride dosage shall be 1.0 L (1.0 quart) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.0 L (2.0 quarts) per 45 kg (100 lb) of cement if approved by the Engineer. If the Department specifies a calcium chloride accelerator for Class PP-2 concrete, the maximum chloride dosage shall be 1.3 L (1.3 quarts) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.6 L (2.6 quarts) per 45 kg (100 lb) of cement if approved by the Engineer.



For Class PV, MS, SI, RR, SC and SH concrete, at the option of the Contractor, or when specified by the Engineer, a water-reducing admixture or a retarding admixture may be used. The amount of water-reducing admixture or retarding admixture permitted will be determined by the Engineer. The air-entraining admixture and other admixtures shall be added to the concrete separately, and shall be permitted to intermingle only after they have separately entered the concrete batch. The sequence, method and equipment for adding the admixtures shall be approved by the Engineer. The water-reducing admixture shall not delay the initial set of the concrete by more than one hour. Type I cement shall be used.

When a water-reducing admixture is added, a cement factor reduction of up to 18 kg/cu m (0.30 hundredweight/cu yd), from the concrete designed for a specific slump without the admixture, will be permitted for Class PV, MS, SI, RR, SC and SH concrete. When an approved high range water-reducing admixture is used, a cement factor reduction of up to 36 kg/cu m (0.60 hundredweight/cu yd), from a specific water cement/ratio without the admixture, will be permitted based on a 14 percent minimum water reduction. This is applicable to Class PV, MS, SI, RR, SC and SH concrete. A cement factor below 320 kg/cu m (5.35 hundredweight/cu yd) will not be permitted for Class PV, MS, SI, RR, SC and SH concrete. A cement factor reduction will not be allowed for concrete placed underwater. Cement factor reductions shall not be cumulative when using multiple admixtures.

For use of admixtures to control concrete temperature, refer to Articles 1020.14(a) and 1020.14(b).

The maximum slumps given in Table 1 may be increased to 175 mm (7 in.) when a high range water-reducing admixture is used for all classes of concrete except Class PV and PP.”

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 may 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 to the satisfaction of the Engineer as to manufacturer and trade name of the material they contain.

Prior to inclusion of a product on the Department's Approved List of Concrete Admixtures, the manufacturer shall submit a report prepared by an independent laboratory accredited by the AASHTO Accreditation Program. 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.

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 335 kg/cu m (5.65 cwt/cu yd). Compressive strength test results for six months and one year will not be required.

In addition to the report, 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 335 kg/cu m (5.65 cwt/cu yd). The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by the AASHTO Accreditation Program.

Prior to the approval of an admixture, the Engineer may conduct all or part of the applicable tests on a sample that is representative of the material to be furnished. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 335 kg/cu m (5.65 cwt/cu yd). For freeze-thaw testing, the Department will perform the test according to Illinois Modified AASHTO T 161, Procedure B.

The manufacturer shall include in the submittal the following information according to ASTM C 494; the average and manufacturing range of specific gravity, the average and manufacturing range of solids in the solution, and the average and manufacturing range of pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

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 the AASHTO Accreditation Program.

All admixtures, except chloride-based accelerators, shall contain no more than 0.3 percent chloride by mass (weight).

**1021.02 Air-Entraining Admixtures.** Air-entraining admixtures shall conform to the requirements of AASHTO M 154.

If the manufacturer certifies that the air-entraining admixture is an aqueous solution of Vinsol resin that has been neutralized with sodium hydroxide (caustic soda), testing for compliance with the requirements may be waived by the Engineer. In the certification, the manufacturer shall show complete information with respect to the formulation of the solution, including the number of parts of Vinsol resin to each part of sodium hydroxide. Before the approval of its use is granted, the Engineer will test the solution for its air-entraining quality in comparison with a solution prepared and kept for that purpose.

**1021.03 Retarding and Water-Reducing Admixtures.** The admixture shall comply with the following requirements:

- (a) The retarding admixture shall comply with the requirements of AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).
- (b) The water-reducing admixture shall comply with the requirements of AASHTO M 194, Type A.
- (c) The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).

When a Type F or Type G high range water-reducing admixture is used, water-cement ratios shall be a minimum of 0.32.

Type F or Type G admixtures may be used, subject to the following restrictions:

For Class MS, SI, RR, SC and SH concrete, the water-cement ratio shall be a maximum of 0.44.

The Type F or Type G admixture shall be added at the jobsite unless otherwise directed by the Engineer. The initial slump shall be a minimum of 40 mm (1 1/2 in.) prior to addition of the Type F or Type G admixture, except as approved by the Engineer.

When a Type F or Type G admixture is used, retempering with water or with a Type G admixture will not be allowed. An additional dosage of a Type F admixture, not to exceed 40 percent of the original dosage, may be used to retemper concrete once, provided set time is not unduly affected. A second retempering with a Type F admixture may be used for all classes of concrete except Class PP and SC, provided that the dosage does not exceed the dosage used for the first retempering, and provided that the set time is not unduly affected. No further retempering will be allowed.

Air tests shall be performed after the addition of the Type F or Type G admixture.

**1021.04 Set Accelerating Admixtures.** The admixture shall comply with the requirements of AASHTO M 194, Type C (accelerating) or Type E (water reducing and accelerating)”

80094

**CURING AND PROTECTION OF CONCRETE CONSTRUCTION (BDE)**

Effective: January 1, 2004

Revise the second and third sentences of the eleventh paragraph of Article 503.06 of the Standard Specifications to read:

“Forms on substructure units shall remain in place at least 24 hours. The method of form removal shall not result in damage to the concrete.”

Delete the twentieth paragraph of Article 503.22 of the Standard Specifications.

Revise the “Unit Price Adjustments” table of Article 503.22 of the Standard Specifications to read:

“UNIT PRICE ADJUSTMENTS	
Type of Construction	Percent Adjustment in Unit Price
For concrete in substructures, culverts (having a waterway opening of more than 1 sq m (10 sq ft)), pump houses, and retaining walls (except concrete pilings, footings and foundation seals):	
When protected by:	
Protection Method II	115%
Protection Method I	110%
For concrete in superstructures:	
When protected by:	
Protection Method II	123%
Protection Method I	115%
For concrete in footings:	
When protected by:	
Protection Method I, II or III	107%
For concrete in slope walls:	
When protected by:	
Protection Method I	107%”

Delete the fourth paragraph of Article 504.05(a) of the Standard Specifications.

Revise the second and third sentences of the fifth paragraph of Article 504.05(a) of the Standard Specifications to read:

“All test specimens shall be cured with the units according to Article 1020.13.”

Revise the first paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

“Curing and Low Air Temperature Protection. The curing and protection for precast, prestressed concrete members shall be according to Article 1020.13 and this Article.”

Revise the first sentence of the second paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

“For curing, air vents shall be in place, and shall be so arranged that no water can enter the void tubes during the curing of the members.”

Revise the first sentence of the third paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

“As soon as each member is finished, the concrete shall be covered with curing material according to Article 1020.13.”

Revise the eighth paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

“The prestressing force shall not be transferred to any member before the concrete has attained the compressive strength of 28,000 kPa (4000 psi) or other higher compressive release strength specified on the plans, as determined from tests of 150 mm (6 in.) by 300 mm (12 in.) cylinders cured with the member according to Article 1020.13. Members shall not be shipped until 28-day strengths have been attained and members have a yard age of at least 4 days.”

Delete the third paragraph of Article 512.03(a) of the Standard Specifications.

Delete the last sentence of the second paragraph of Article 512.04(d) of the Standard Specifications.

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Revise the "Index Table of Curing and Protection of Concrete Construction" table of Article 1020.13 of the Standard Specifications to read:

"INDEX TABLE OF CURING AND PROTECTION OF CONCRETE CONSTRUCTION"			
TYPE OF CONSTRUCTION	CURING METHODS	CURING PERIOD DAYS	LOW AIR TEMPERATURE PROTECTION METHODS
<b>Cast-in-Place Concrete:</b> <sup>11/</sup>			
Pavement			
Shoulder	1020.13(a)(1)(2)(3)(4)(5) <sup>3/ 5/</sup>	3	1020.13(c)
Base Course			
Base Course Widening	1020.13(a)(1)(2)(3)(4)(5) <sup>1/ 2/</sup>	3	1020.13(c)
Driveway			
Median			
Curb			
Gutter	1020.13(a)(1)(2)(3)(4)(5) <sup>4/ 5/</sup>	3	1020.13(c) <sup>16/</sup>
Curb and Gutter			
Sidewalk			
Slope Wall			
Paved Ditch			
Catch Basin			
Manhole	1020.13(a)(1)(2)(3)(4)(5) <sup>4/</sup>	3	1020.13(c)
Inlet			
Valve Vault			
Pavement Patching	1020.13(a)(1)(2)(3)(4)(5) <sup>2/</sup>	3 <sup>12/</sup>	1020.13(c)
Pavement Replacement	1020.13(a)(1)(2)(3)(4)(5) <sup>1/ 2/</sup>	3	442.06(h) and 1020.13(c)
Railroad Crossing	1020.13(a)(3)(5)	1	1020.13(c)
Piles	1020.13(a)(3)(5)	7	1020.13(e)(1)(2)(3)
Footings			
Foundation Seals	1020.13(a)(1)(2)(3)(4)(5) <sup>4/ 6/</sup>	7	1020.13(e)(1)(2)(3)
Substructure	1020.13(a)(1)(2)(3)(4)(5) <sup>1/ 7/</sup>	7	1020.13(e)(1)(2)(3)
Superstructure (except deck)	1020.13(a)(1)(2)(3)(5) <sup>8/</sup>	7	1020.13(e)(1)(2)
Deck	1020.13(a)(5)	7	1020.13(e)(1)(2) <sup>17/</sup>
Retaining Walls	1020.13(a)(1)(2)(3)(4)(5) <sup>1/ 7/</sup>	7	1020.13(e)(1)(2)
Pump Houses	1020.13(a)(1)(2)(3)(4)(5) <sup>1/</sup>	7	1020.13(e)(1)(2)
Culverts	1020.13(a)(1)(2)(3)(4)(5) <sup>4/ 6/</sup>	7	1020.13(e)(1)(2) <sup>18/</sup>
Other Incidental Concrete	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
<b>Precast Concrete:</b> <sup>11/</sup>			
Bridge Beams			
Piles			
Bridge Slabs	1020.13(a)(3)(5) <sup>9/ 10/</sup>	As required. <sup>13/</sup>	504.06(c)(6), 1020.13(e)(2) <sup>19/</sup>
Nelson Type Structural Member			
All Other Precast Items	1020.13(a)(3)(4)(5) <sup>2/ 9/ 10/</sup>	As required. <sup>14/</sup>	504.06(c)(6), 1020.13(e)(2) <sup>19/</sup>
<b>Precast, Prestressed Concrete:</b> <sup>11/</sup>			
All Items	1020.13(a)(3)(5) <sup>9/ 10/</sup>	Until tensioning <sup>15/</sup> is released.	strand504.06(c)(6), 1020.13(e)(2) <sup>19/</sup>

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Notes-General:

- 1/ Type I, membrane curing only
- 2/ Type II, membrane curing only
- 3/ Type III, membrane curing only
- 4/ Type I, II and III membrane curing
- 5/ Membrane curing will not be permitted between November 1 and April 15.
- 6/ The use of water to inundate footings, foundation seals or the bottom slab of culverts is permissible when approved by the Engineer, provided the water temperature can be maintained at 7 °C ( 45 °F) or higher.
- 7/ Asphalt Emulsion for Waterproofing may be used in lieu of other curing methods when specified and permitted according to Article 503.18.
- 8/ On non-traffic surfaces which receive protective coat according to Article 503.19, a linseed oil emulsion curing compound may be used as a substitute for protective coat and other curing methods. The linseed emulsion curing compound will be permitted between April 16 and October 31 of the same year, provided it is applied with a mechanical sprayer according to Article 1101.09 (b), and meets the material requirements of Article 1022.07.
- 9/ Steam curing (heat and moisture) is acceptable and shall be accomplished by the method specified in Article 504.06(c)(6).
- 10/ A moist room according to AASHTO M 201 is acceptable for curing.
- 11/ If curing is required and interrupted because of form removal for cast-in-place concrete items, precast concrete products, or precast prestressed concrete products, the curing shall be resumed within two hours from the start of the form removal.
- 12/ Curing maintained only until opening strength is attained, with a maximum curing period of three days.
- 13/ The curing period shall end when the concrete has attained the mix design strength. The producer has the option to discontinue curing when the concrete has attained 80 percent of the mix design strength or after seven days. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.
- 14/ The producer shall determine the curing period or may elect to not cure the product. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.
- 15/ The producer has the option to continue curing after strand release.
- 16/ When structural steel or structural concrete is in place above slope wall, Article 1020.13(c) shall not apply. The protection method shall be according to Article 1020.13(e)(1).
- 17/ When Article 1020.13(e)(2) is used to protect the deck, the housing may enclose only the bottom and sides. The top surface shall be protected according to Article 1020.13(e)(1).
- 18/ For culverts having a waterway opening of 1 sq m (10 sq ft) or less, the culverts may be protected according to Article 1020.13(e)(3).

19/ The seven day protection period in the first paragraph of Article 1020.13(e)(2) shall not apply. The protection period shall end when curing is finished. For the third paragraph of Article 1020.13(e)(2), the decrease in temperature shall be according to Article 504.06(c)(6)."

Add the following to Article 1020.13(a) of the Standard Specifications:

"(5) Wetted Cotton Mat Method. After the surface of concrete has been textured or finished, it shall be covered immediately with dry cotton mats. The cotton mats shall be placed in a manner which will not mar the concrete surface. A texture resulting from the cotton mat material is acceptable. The cotton mats shall then be wetted immediately and thoroughly soaked with a gentle spray of water. For bridge decks, a foot bridge shall be used to place and wet the cotton mats.

The cotton mats shall be maintained in a wetted condition until the concrete has hardened sufficiently to place soaker hoses without marring the concrete surface. The soaker hoses shall be placed on top of the cotton mats at a maximum 1.2 m (4 ft) spacing. The cotton mats shall be kept wet with a continuous supply of water for the remainder of the curing period. Other continuous wetting systems may be used if approved by the Engineer.

After placement of the soaker hoses, the cotton mats shall be covered with white polyethylene sheeting or burlap-polyethylene blankets.

For construction items other than bridge decks, soaker hoses or a continuous wetting system will not be required if the alternative method keeps the cotton mats wet. Periodic wetting of the cotton mats is acceptable.

For areas inaccessible to the cotton mats on bridge decks, curing shall be according to Article 1020.13(a)(3)."

Revise the first paragraph of Article 1020.13(c) of the Standard Specifications to read:

"Protection of Portland Cement Concrete, Other Than Structures, From Low Air Temperatures. When the official National Weather Service forecast for the construction area predicts a low of 0 °C (32 °F), or lower, or if the actual temperature drops to 0 °C (32 °F), or lower, concrete less than 72 hours old shall be provided at least the following protection:"

Delete Article 1020.13(d) and Articles 1020.13(d)(1),(2),(3),(4) of the Standard Specifications.

Revise the first five paragraphs of Article 1020.13(e) of the Standard Specifications to read:

"Protection of Portland Cement Concrete Structures From Low Air Temperatures. When the official National Weather Service Forecast for the construction area predicts a low below 7 °C (45 °F), or if the actual temperature drops below 7 °C (45 °F), concrete less than 72 hours old shall be provided protection. Concrete shall also be provided protection when placed during the winter period of December 1 through March 15. Concrete shall not be placed until the materials, facilities and equipment for protection are approved by the Engineer.



When directed by the Engineer, the Contractor may be required to place concrete during the winter period. If winter construction is specified, the Contractor shall proceed with the construction, including concrete, excavation, pile driving, steel erection and all appurtenant work required for the complete construction of the item, except at times when weather conditions make such operations impracticable.

Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced by the Contractor at his/her own expense.”

Add the following at the end of the third paragraph of Article 1020.13(e)(1) of the Standard Specifications:

“The Contractor shall provide means for checking the temperature of the surface of the concrete during the protection period.”

Revise the second sentence of the first paragraph of Article 1020.13(e)(2) of the Standard Specifications to read:

“The Contractor shall provide means for checking the temperature of the surface of the concrete or air temperature within the housing during the protection period.”

Delete the last sentence of the first paragraph of Article 1020.13(e)(3) of the Standard Specifications.

Add the following Article to Section 1022 of the Standard Specifications:

**“1022.06 Cotton Mats.** Cotton mats shall consist of a cotton fill material, minimum 400 g/sq m (11.8 oz/sq yd), covered with unsized cloth or burlap, minimum 200 g/sq m (5.9 oz/sq yd), and be tufted or stitched to maintain stability.

Cotton mats shall be in a condition satisfactory to the Engineer. Any tears or holes in the mats shall be repaired.

Add the following Article to Section 1022 of the Standard Specifications:

**“1022.07 Linseed Oil Emulsion Curing Compound.** Linseed oil emulsion curing compound shall be composed of a blend of boiled linseed oil and high viscosity, heavy bodied linseed oil emulsified in a water solution. The curing compound shall meet the requirements of a Type I, II, or III according to Article 1022.01, except the drying time requirement will be waived. The oil phase shall be 50 ± 4 percent by volume. The oil phase shall consist of 80 percent by mass (weight) boiled linseed oil and 20 percent by mass (weight ) Z-8 viscosity linseed oil. The water phase shall be 50 ± 4 percent by volume.”

Revise Article 1020.14 of the Standard Specifications to read:

**“1020.14 Temperature Control for Placement.** Temperature control for concrete placement shall conform to the following requirements:

- (a) Temperature Control other than Structures. The temperature of concrete immediately before placing, shall be not less than 10 °C (50 °F) nor more than 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department’s Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

Plastic concrete temperatures up to 35 °C (96 °F), as placed, may be permitted provided job site conditions permit placement and finishing without excessive use of water on and/or overworking of the surface. The occurrence within 24 hours of unusual surface distress shall be cause to revert to a maximum 32 °C (90 °F) plastic concrete temperature.

Concrete shall not be placed when the air temperature is below 5 °C (40 °F) and falling or below 2 °C (35 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to not less than 20 °C (70 °F) nor more than 65 °C (150 °F). The aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

For pavement patching, refer to Article 442.06(e) for additional information on temperature control for placement.

- (b) Temperature Control for Structures. The temperature of concrete as placed in the forms shall be not less than 10 °C (50 °F) nor more than 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits. When insulated forms are used, the temperature of the concrete mixture shall not exceed 25 °C (80 °F). If the Engineer determines that heat of hydration might cause excessive temperatures in the concrete, the concrete shall be placed at a temperature between 10 °C (50 °F) and 15 °C (60 °F), per the Engineer’s instructions. When concrete is placed in contact with previously placed concrete, the temperature of the concrete may be increased as required to offset anticipated heat loss.

Concrete shall not be placed when the air temperature is below 7 °C (45 °F) and falling or below 4 °C (40 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to not less than 20 °C (70 °F) nor more than 65 °C (150 °F). The aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department's Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

- (c) Temperature. The concrete temperature shall be determined according to ASTM C 1064."

## **DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION**

Effective: September 1, 2000

Revised: June 22, 2005

**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 DBE Directory or most recent addendum.

**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% 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% 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 firms 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 35.00% 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 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 firmly committed 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 DBE Directory as a reference source for DBE companies certified by the Department. 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.state.il.us](http://www.dot.state.il.us).

BIDDING PROCEDURES. Compliance with the bidding procedures of this Special Provision is required prior to the award of the contract and the failure of the as-read low bidder to comply will render the bid not responsive.

- (a) In order to assure the timely award of the contract, the as-read low bidder shall submit a Disadvantaged Business Utilization Plan on Department form SBE 2026 within seven (7) working days after the date of letting. To meet the seven (7) day requirement, the bidder may send the Plan by certified mail or delivery service within the seven (7) working day period. If a question arises concerning the mailing date of a Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service. It is the responsibility of the bidder to ensure that the postmark or receipt date is affixed within the seven (7) working days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Plan is to be submitted 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). It is the responsibility of the bidder to obtain confirmation of telefax delivery. The Department will not accept a Utilization Plan if it does not meet the seven (7) day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.
- (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. The signatures on these forms must be original signatures. All elements of information indicated on the said form shall be provided, including but not limited to the following:
- (1) The name and address of each DBE to be used;
  - (2) A description, including pay item numbers, of the commercially useful work to be done by each DBE;

- (3) The price to be paid to each DBE for the identified work specifically stating 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) A commitment statement signed by the bidder and each DBE evidencing availability and intent to perform commercially useful work on the project; and
  - (5) If the bidder is a joint venture comprised of DBE firms and non-DBE firms, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s).
- (d) The contract will not be awarded until the Utilization Plan submitted by the bidder is approved. The Utilization Plan will be approved by the Department if the Plan commits sufficient commercially useful DBE work performance to meet the contract goal. The Utilization Plan will not be approved by the Department if the Plan does not commit sufficient DBE performance to meet the contract goal unless the bidder documents that it made a good faith effort to meet the goal. The good faith procedures of Section VIII of this special provision apply. If the Utilization Plan is not approved because it is deficient in a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no less than a five (5) working day period in order to cure the deficiency.

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% 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 firm does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100% 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% 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 firm does not count toward the DBE goal.

- (d) DBE as a trucker: 100% 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 full value of all such DBE trucks operated using DBE employed drivers. Goal credit will be limited to the value of the reasonable fee or commission received by the DBE if trucks are leased from a non-DBE company.
- (e) DBE as a material supplier:
- (1) 60% goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
  - (2) 100% goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
  - (3) 100% credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

GOOD FAITH EFFORT PROCEDURES. If the bidder cannot obtain sufficient DBE commitments to meet the contract goal, the bidder must document in the Utilization Plan the good faith efforts made in the attempt 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 could reasonably be expected to obtain sufficient DBE participation. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts are not good faith efforts; rather, the bidder is expected to have taken those 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 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 a good faith effort has not been made, the Department will notify the bidder of that preliminary determination by contacting the responsible company official designated in the Utilization Plan. The preliminary determination shall include a statement of reasons why good faith efforts have not been found, and may include additional good faith efforts that the bidder could take. The notification will designate a five (5) working day period during which the bidder shall take additional efforts. The bidder is not limited by a statement of additional efforts, but may take other action beyond any stated additional efforts in order to obtain additional DBE commitments. The bidder shall submit an amended Utilization Plan if additional DBE commitments to meet the contract goal are secured. If additional DBE commitments sufficient to meet the contract goal are not secured, the bidder shall report the final good faith efforts made in the time allotted. All additional efforts taken by the bidder will be considered as part of the bidder's good faith efforts. If the bidder is not able to meet the goal after taking additional efforts, the Department will make a pre-final determination of the good faith efforts of the bidder and will notify the designated responsible company official of the reasons for an adverse determination.
- (c) The bidder may request administrative reconsideration of a pre-final determination adverse to the bidder within the five (5) working days after 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 pre-final determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issue of whether an adequate good faith effort was made to meet the contract goal. In addition, the request shall be considered a consent by the bidder to extend the time for award. 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 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 (10) 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.

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 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) 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. If a DBE listed in the Utilization Plan is terminated for reasons other than convenience, or fails to complete its work on the contract for any reason, the Contractor shall make good faith efforts to find another DBE to substitute for the terminated 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 DBE that was terminated, but only to the extent needed to meet the contract goal or the amended contract goal. 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 and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau 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.

- (c) 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 therefor to the DBE by the Contractor, but not later than thirty (30) calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Report on Department form SBE 2115 to the Regional Engineer. If full and final payment has not been made to the DBE, the Report 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 Plan, the Department will deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages.
- (d) 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.
- (e) 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.

80029

**EPOXY PAVEMENT MARKING (BDE)**

Effective: January 1, 2001

Revised: August 1, 2003

Revise Article 1095.04(b) of the Standard Specifications to read:

"(b) The Epoxide Value (WPE) of Component A shall be tested according to ASTM D 1652 on a pigment free basis. The WPE shall not vary more than plus or minus 50 units of the qualification samples."

Revise Article 1095.04(c) of the Standard Specifications to read:

"(c) The Total Amine Value of Component B shall be tested according to ASTM D 2074. The Total Amine Value shall not vary more than plus or minus 50 units of the qualification samples."

Revise Article 1095.04(g) of the Standard Specifications to read:

“(g) The epoxy pavement marking material, when mixed in the proper mix ratio and applied at 0.35 mm to 0.41 mm (14 to 16 mils) wet film thickness and with the proper saturation of glass spheres, shall exhibit a dry no pick-up time of twenty minutes or less when tested according to ASTM D 711.”

Revise Article 1095.04(m) of the Standard Specifications to read:

“(m) The glass beads meet the requirements of Article 1095.07 and the following:

- (1) The first drop glass beads shall be tested by the standard visual method of large glass spheres adopted by the Department. The beads shall have a silane coating and meet the following sieve requirements.

Sieve Size	U.S. Standard Sieve Number	% Passing (by weight)
1.70 mm	12	95-100
1.40 mm	14	75-95
1.18 mm	16	10-47
1.00 mm	18	0-7
850 µm	20	0-5

- (2) The second drop glass beads shall be Type B.”

Revise the second sentence of the first paragraph of Article 1095.04(n) of the Standard Specifications to read:

“Subject the coated panel for 75 hours to accelerated weathering using the light and water exposure apparatus (fluorescent UV – condensation type) as specified in ASTM G 53 (equipped with UVB-313 lamps).”

## **EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE)**

Effective: August 1, 2001

Revised: November 1, 2001

When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, he/she will direct the Contractor in writing to correct the deficiency. The Contractor shall then correct the deficiency within 24 hours. The 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 National Pollutant Discharge Elimination System (NPDES) Storm Water Permit for Construction Site Activities.

If the Contractor fails to correct the deficiency(s) within 24 hours, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The time period will begin with the initial written notification to the Contractor and end with the Engineer's acceptance of the corrected work. The per calendar day deduction will be either \$1000.00 or 0.05 percent of the awarded contract value, whichever is greater.

If the Contractor fails to respond, the Engineer may correct the deficiencies and deduct the cost from monies due or which may become due the Contractor. This corrective action shall in no way relieve the Contractor of his/her contractual requirements or responsibilities.

80055

## **FLAGGER VESTS (BDE)**

Effective: April 1, 2003

Revised: August 1, 2005

Revise the first sentence of Article 701.04(c)(1) of the Standard Specifications to read:

“The flagger shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments and approved flagger traffic control signs conforming to Standard 702001 and Article 702.05(e).”

Revise Article 701.04(c)(6) of the Standard Specifications to read:

“(6) Nighttime Flagger. Flaggers shall be illuminated by an overhead light source providing a minimum vertical illuminance of 108 lux (10 fc) measured 300 mm (1 ft) out from the flagger's chest. The bottom of any luminaire shall be a minimum of 3 m (10 ft) above the pavement. Luminaire(s) shall be shielded to minimize glare to approaching traffic and trespass light to adjoining properties.

The flagger vest shall be a fluorescent orange or fluorescent orange and fluorescent yellow/green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 3 garments.”

**FREEZE-THAW RATING (BDE)**

Effective: November 1, 2002

Revise the first sentence of Article 1004.02(f) of the Standard Specifications to read:

“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 or their repair using concrete, the gradation permitted will be determined from the results of the Department’s Freeze-Thaw Test.”

**HAND VIBRATOR (BDE)**

Effective: November 1, 2003

Add the following paragraph to Article 1103.17(a) of the Standard Specifications:

“The vibrator shall have a non-metallic head for areas containing epoxy coated reinforcement. The head shall be coated by the manufacturer. The hardness of the non-metallic head shall be less than the epoxy coated reinforcement, resulting in no damage to the epoxy coating. Slip-on covers will not be allowed.”

**IMPACT ATTENUATORS (BDE)**

Effective: November 1, 2003

Description. This work shall consist of furnishing and installing 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).....	1003.01
(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

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. Fully redirective and partially redirective attenuators shall also be designed for bi-directional impacts.

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. For sand modules, the perimeter of each module and the specified mass (weight) of sand in each module shall be painted on the surface of the base.

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.

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 (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS (SEVERE USE, NARROW); IMPACT ATTENUATORS (SEVERE USE, WIDE); IMPACT ATTENUATORS (PARTIALLY REDIRECTIVE); or IMPACT ATTENUATORS (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.

80109

#### **IMPACT ATTENUATORS, TEMPORARY (BDE)**

Effective: November 1, 2003

Revised: April 1, 2004

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).....	1003.01
(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) Rapid Set Mortar (Note 2)	

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.

Note 2. Rapid set mortar shall be obtained from the Department's approved list of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs. For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume or a packaged rapid set mortar shall be used. Mixing of the rapid set mortar shall be according to the manufacturer's instructions.

### 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 (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.

**INLET FILTERS (BDE)**

Effective: August 1, 2003

Add the following to Article 280.02 of the Standard Specifications:

“(k) Inlet Filters..... 1081.15(h)”

Add the following paragraph after the first paragraph of Article 280.04(c) of the Standard Specifications:

“When specified, drainage structures shall be protected with inlet filters. Inlet filters shall be installed either directly on the drainage structure or under the grate of the drainage structure resting on the lip of the frame. The fabric bag shall hang down into the drainage structure. Prior to ordering materials, the Contractor shall determine the size and shape of the various drainage structures being protected.”

Revise Article 280.07(d) of the Standard Specifications to read:

“(d) Inlet and Pipe Protection. This work will be paid for at the contract unit price per each for INLET AND PIPE PROTECTION.

Protection of drainage structures with inlet filters will be paid for at the contract unit price per each for INLET FILTERS.”

Add the following to Article 1081.15 of the Standard Specifications:

“(h) Inlet Filters. An inlet filter shall consist of a steel frame with a two piece geotextile fabric bag attached with a stainless steel band and locking cap that is suspended from the frame. A clean, used bag and a used steel frame in good condition meeting the approval of the Engineer may be substituted for new materials. Materials for the inlet filter assembly shall conform to the following requirements:

(1) Frame Construction. Steel shall conform to Article 1006.04.

Frames designed to fit under a grate shall include an overflow feature that is welded to the frame’s ring. The overflow feature shall be designed to allow full flow of water into the structure when the filter bag is full. The dimensions of the frame shall allow the drainage structure grate to fit into the inlet filter assembly frame opening. The assembly frame shall rest on the inside lip of the drainage structure frame for the full variety of existing and proposed drainage structure frames that are present on this contract. The inlet filter assembly frame shall not cause the drainage structure grate to extend higher than 6 mm (1/4 in.) above the drainage structure frame.

(2) Grate Lock. When the inlet is located in a traffic lane, a grate lock shall be used to secure the grate to the frame. The grate lock shall conform to the manufacturer’s requirements for materials and installation.

(3) Geotextile Fabric Bag. The sediment bag shall be constructed of an inner filter bag and an outer reinforcement bag.

a. Inner Filter Bag. The inner filter bag shall be constructed of a polypropylene geotextile fabric with a minimum silt and debris capacity of 0.06 cu m (2.0 cu ft). The bag shall conform to the following requirements:

FAI Route 94/90 (Dan Ryan Expressway)  
 31st Street to 71st Street (SB Express Lanes)  
 Section (1818, ETC, 2324.6-1P)R-9  
 Cook County

Inner Filter Bag		
Material Property	Test Method	Minimum Avg. Roll Value
Grab Tensile Strength	ASTM D 4632	45 kg (100 lb)
Grab Tensile Elongation	ASTM D 4632	50%
Puncture Strength	ASTM D 4833	29 kg (65 lb)
Trapezoidal Tear	ASTM D 4533	20 kg (45 lb)
UV Resistance	ASTM D 4355	70% at 500 hours
Actual Open Size	ASTM D 1420	212 $\mu$ m (No. 70 sieve US)
Permittivity	ASTM D 4491	2.0/sec
Water Flow Rate	ASTM D 4491	5900 Lpm/sq m (145 gpm/sq ft)

- b. Outer Reinforcement Bag. The outer reinforcement bag shall be constructed of polyester mesh material that conforms to the following requirements:

Outer Reinforcement Bag		
Material Property	Test Method	Value
Content	ASTM D 629	Polyester
Weight	ASTM D 3776	155 g/sq m (4.55 oz/sq yd) $\pm$ 15%
Whales (holes)	ASTM D 3887	7.5 $\pm$ 2 holes/25 mm (1 in.)
Chorses (holes)	ASTM D 3887	15.5 $\pm$ 2holes/25 mm (1 in.)
Instronball Burst	ASTM D 3887	830 kPa (120 psi) min.
Thickness	ASTM D 1777	1.0 $\pm$ 0.1 mm (0.040 $\pm$ 0.005 in.)

- (4) Certification. The manufacturer shall furnish a certification with each shipment of inlet filters, stating the amount of product furnished, and that the material complies with these requirements.”

80104

**MINIMUM LANE WIDTH WITH LANE CLOSURE (BDE)**

Effective: January 1, 2005

Add the following paragraph after the eighth paragraph of Article 701.04(a) of the Standard Specifications.

“The minimum lane width adjacent to a closed lane during paving, patching, and other moving operations on freeways and expressways shall be a minimum of 3 m (10 ft). The 3 m (10 ft) shall be clear, unobstructed, and free of channelizing devices or other obstacles.”

80137

**MULCHING SEEDED AREAS (BDE)**

Effective: January 1, 2005

Delete Article 251.02(a) of the Standard Specifications.

Add the following to Article 251.02 of the Standard Specifications:

“(h) Compost ..... 1081.05(b)”

Delete Article 251.03(b)(1) of the Standard Specifications.

Add the following to Article 251.03 of the Standard Specifications:

“(d) 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 50 mm (2 in.)”

Revise the first sentence of the first paragraph of Article 251.06(b) of the Standard Specifications to read:

“Mulch Methods 1, 2, 3, and 4 will be measured for payment in hectares (acres) of surface area mulched.”

Revise Article 251.07 of the Standard Specifications to read:

“**251.07 Basis of Payment.** This work will be paid for at the contract unit price per hectare (acre) for MULCH, METHOD 1; MULCH, METHOD 2; MULCH, METHOD 3; or MULCH, METHOD 4; and at the contract unit price per square meter (square yard) for EROSION CONTROL BLANKET or HEAVY DUTY EROSION CONTROL BLANKET.”

Add the following after the second paragraph of Article 1081.05(b) of the Standard Specifications:

“Chemical Compost Binder. Chemical compost binder shall be a commercially available product specifically recommended by the manufacturer for use as a compost stabilizer.”

The compost binder shall be nonstaining and nontoxic to vegetation and the environment. It shall disperse evenly and rapidly and remain in suspension when agitated in water.

Prior to use of the compost binder, the Contractor shall submit a notarized certification by the manufacturer stating that it meets these requirements. Chemical compost binder shall be packaged, stored, and shipped according to the manufacturer's recommendations with the net quantity plainly shown on each package or container."

### **MULTILANE PAVEMENT PATCHING (BDE)**

Effective: November 1, 2002

Pavement broken and holes opened for patching shall be completed prior to weekend or holiday periods. Should delays of any type or for any reason prevent the completion of the work, temporary patches shall be constructed. Material able to support the average daily traffic and meeting the approval of the Engineer shall be used for the temporary patches. The cost of furnishing, placing, maintaining, removing and disposing of the temporary work, including traffic control, shall be the responsibility of the Contractor.

### **PARTIAL PAYMENTS (BDE)**

Effective: September 1, 2003

Revise Article 109.07 of the Standard Specifications to read:

**"109.07 Partial Payments.** Partial payments will be made as follows:

- (a) Progress Payments. At least once each month, the Engineer will make a written estimate of the amount of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved. Furthermore, progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c).

- (b) **Material Allowances.** At the discretion of the Department, payment may be made for materials, prior to their use in the work, when satisfactory evidence is presented by the Contractor. Satisfactory evidence includes justification for the allowance (to expedite the work, meet project schedules, regional or national material shortages, etc.), documentation of material and transportation costs, and evidence that such material is properly stored on the project or at a secure location acceptable and accessible to the Department.

Material allowances will be considered only for nonperishable materials when the cost, including transportation, exceeds \$10,000 and such materials are not expected to be utilized within 60 days of the request for the allowance. For contracts valued under \$500,000, the minimum \$10,000 requirement may be met by combining the principal (material) product of no more than two contract items. An exception to this two item limitation may be considered for any contract regardless of value for items in which material (products) are similar except for type and/or size.

Material allowances shall not exceed the value of the contract items in which used and shall not include the cost of installation or related markups. Amounts paid by the Department for material allowances will be deducted from estimates due the Contractor as the material is used. Two-sided copies of the Contractor's cancelled checks for materials and transportation must be furnished to the Department within 60 days of payment of the allowances or the amounts will be reclaimed by the Department."

80116

#### **PAVEMENT THICKNESS DETERMINATION FOR PAYMENT (BDE)**

Effective: April 1, 1999

Revised: January 1, 2004

Description. This work shall consist of determining pavement thickness for payment for full depth bituminous concrete and all pcc pavements. Pavement pay items that individually contain at least 840 sq m (1000 sq yd) of contiguous pavement will be subject to this Special Provision with the following exclusions: temporary pavements; variable width pavement; radius returns and side streets less than 125 m (400 ft) in length; and turn lanes of constant width less than 125 m (400 ft) in length. The areas of pavement excluded from the pay adjustment as described in this Special Provision will be cored according to Article 407.10 of the Standard Specifications. Temporary pavements are defined as pavements constructed and removed under this contract.

Materials. Rapid set materials shall be obtained from the Department's approved list of Packaged, Dry, Rapid Hardening Cementitious Materials For Concrete Repairs. Coarse aggregate may be added to the mortar if allowed by the manufacturer's instructions on the package. Mixing shall be according to the manufacture's recommendations.

Equipment. Cores shall be taken utilizing an approved coring machine. The cores shall have a diameter of 50 mm (2 in.). The cores shall be measured utilizing an approved measuring device.

### CONSTRUCTION REQUIREMENTS

Tolerance in Thickness. Determination of the pavement thickness shall be performed after the pavement surface tests and all corrective grinding are complete according to Article 407.09 of the Standard Specifications. Adjustments made in the contract unit price for pavement thickness will be in addition to and independent of those made for the Profile Index.

The pavement will be divided into approximately equal lots of not more than 1500 m (5000 ft) in length. When the length of a continuous strip of pavement is less than 1500 m (5000 ft), these short lengths of pavement, ramps, turn lanes, and other short sections of continuous pavement shall be grouped together to form lots of approximately 1500 m (5000 ft) 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.

Fifty millimeter (Two inch) cores shall be taken from the pavement by the Contractor at random locations selected by the Engineer. When computing the thickness of a lot, one core will be taken per subplot. Core locations will be specified by the Engineer prior to beginning the coring operations.

The Contractor and the Engineer shall witness the coring operations, the measurement, 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 discarded.

Patching Holes. Upon completion of coring, all core holes shall be filled with a rapid set mortar or concrete. Only enough water to permit placement and consolidation by rodding shall be used, and the material shall be struck-off flush with the adjacent pavement.

For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume; or a packaged rapid set mortar shall be used. For a rapid set concrete mixture, a packaged rapid set mortar shall be combined with coarse aggregate according to the manufacturer's instructions or a packaged rapid set concrete shall be used. Mixing of a rapid set mortar or concrete shall be according to the manufacturer's instructions.

Deficient Sublot. When the thickness of the core in a sublot is deficient by more than ten percent of plan thickness, the Contractor will have the option of taking three additional cores selected at random by the Engineer within the same sublot at the Contractor's expense. The thickness of the additional three cores will be averaged with the original core thickness. When the average thickness shows the sublot to be deficient by ten percent or less, no additional action is necessary. If the Contractor chooses not to take additional cores, the pavement in the sublot shall be removed and replaced at the Contractor's expense. When additional cores are taken and the average thickness of the additional cores show the sublot to be deficient by more than ten percent, the pavement in that sublot shall be removed and replaced at the Contractor's expense. When requested in writing by the Contractor, the Engineer, at his/her option, may permit in writing such thin pavement to remain in place. For Bituminous Concrete Pavement (Full Depth) allowed to remain in place, additional lift(s) may be placed, at the Contractor's expense, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The material thickness(es), areas to be overlaid, and method of placement used for additional lift(s) will be approved by the Engineer. When the thin pavement is removed and replaced or additional lifts are placed, the replacement pavement will be retested for thickness at the Contractor's expense. When the thin pavement is left in place and no additional lift(s) are placed, no payment will be made for the deficient pavement sublot. The thickness of the original core taken in the sublot will be used in determining the payment for the entire lot and no adjustment to the pay factor will be made for any corrective action taken.

Deficient Lot. After analyzing the cores, the Percent Within Limits will be calculated. A lot of pavement represented by the Percent Within Limits (PWL) of 60 percent or less, shall be removed and replaced at the Contractor's expense. When requested in writing by the Contractor, the Engineer, at his/her option, may permit in writing such pavement to remain in place. For Bituminous Concrete Pavement (Full Depth), allowed to remain in place, additional lift(s) may be placed, at the Contractor's expense, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The material, thickness(es), areas to be overlaid and method of placement used for the additional lift(s) will be approved by the Engineer. After either corrective action, the Contractor shall core the lot according to the "Coring Procedures" at no additional cost to the Department. The PWL will then be recalculated for the lot, however, the pay factor for the lot will be a maximum of 100 percent. When requested in writing by the Contractor, the Engineer, at his/her option, may permit in writing, the lot to remain in place. When the lot is left in place and no additional lifts are placed the pay factor for the lot will be based on the calculated PWL.



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 cores in addition to those specified. 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. These additional cores and locations will be determined prior to commencement of coring operations. When the additional cores show the pavement to be deficient by more than ten percent, additional cores shall be taken at locations determined by the Engineer to determine the limits of the deficient pavement area. The deficient pavement area will be defined as the area between two acceptable cores. An acceptable core is a core with a thickness of 90 percent or more of plan thickness. The defined pavement area shall be removed and replaced at the Contractor's expense. When requested by the Contractor, the Engineer, at his/her option, may permit in writing such thin pavement to remain in place. On Bituminous Concrete Pavement (Full Depth) allowed to remain in place, additional lift(s) may be placed to bring the deficient pavement to plan thickness when the Engineer determines that grade control conditions will permit such lift(s). The material, thickness(es), areas to be overlaid and method of placement for the additional lift(s) will be approved by the Engineer. When the thin pavement is removed and replaced or additional lifts are placed, the replacement pavement will be retested for thickness at the Contractor's expense. When the thin 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 deficient by ten percent or less the additional cores will be paid for according to Article 109.04. When the additional cores show the pavement to be deficient by more than ten percent the additional cores taken in the deficient area shall be at the Contractor's expense.

Profile Index Adjustment. After any section of pavement is removed and replaced or any additional lifts are added, the corrected areas shall be tested for pavement smoothness and any necessary Profile Index adjustments and/or corrections will be made based on these final profile readings. Such surface testing shall be performed at the Contractor's expense.

Core Analysis. Cores will be analyzed according to the following:

(a) Definition:

- $x_i$  = 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 (LSL = 0.98 plan thickness for pavement)
- $Q_L$  = Lower Quality Index
- $S$  = Sample Standard Deviation
- PWL = Percent Within Limits

Determine  $\bar{x}$  for the lot to the nearest two decimal places.

Compute the sample standard deviation to the nearest three decimal places using:

$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n-1}} \quad \text{where} \quad \Sigma(x_i - \bar{x})^2 = (x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + \dots + (x_{10} - \bar{x})^2$$

Determine the Lower Quality Index to the nearest two decimal places using:

$$Q_L = \frac{(\bar{x} - LSL)}{S}$$

Determine the percentage that will fall above the Lower Specification Limit (LSL) by going to the attached Table and utilizing calculated  $Q_L$ . Read the appropriate PWL value from the Table. For  $Q_L$  values less than zero the value shown in the table must be subtracted from 100 to obtain PWL.

Pay Adjustment. The following pay adjustment equation will be used to determine (to the nearest two decimal places) the pay factor for each lot.

Pay Factor (PF) in percent = 55 + 0.5 (PWL)

If  $\bar{x}$  for a lot is less than the plan thickness, the maximum pay factor for that lot will be 100 percent.

Total Payment. The payment will be based on the appropriate pay items in Sections 407, 420, and 421. The final payment will be adjusted according to the following equation:

| Total Payment = TPF[CUP (TOTPAVT - DEFFPAVT)]

TPF = Total Pay Factor

CUP = Contract Unit Price

| TOTPAVT = Area of Pavement Subject to Coring

DEFFPAVT = Area of Deficient Pavement

The TPF for the entire pavement will be the average of the PF for all the lots, however, not more than 102 percent of plan quantity will be paid.

Deficient pavement is defined as an area of pavement represented by a subplot deficient by more than 10 percent which is left in place with no additional thickness added.

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All work involved in determining the total payment will be included in the contract unit prices of the pay items involved.

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

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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

53600

**PAYMENTS TO SUBCONTRACTORS (BDE)**

Effective: June 1, 2000

Revised: September 1, 2003

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 no later than 30 days from the receipt of each payment made to the Contractor.

State law addresses the timing of payments to be made to subcontractors. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, generally requires that when a Contractor receives any payment from the Department, the Contractor is required to make corresponding, proportional payments to each subcontractor performing work within 15 calendar days after receipt of the state payment. Section 7 of the State Prompt Payment Act further provides that interest in the amount of 2% per month, in addition to the payment due, shall be paid to any subcontractor 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 throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

As progress payments are made to the Contractor in accordance with Article 109.07 of the Standard Specifications for Road and Bridge Construction, the Contractor shall make a corresponding partial payment within 15 calendar days to each subcontractor in proportion to the work satisfactorily completed by each subcontractor. The proportionate amount of partial payment due to each subcontractor 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 shall be paid in full within 15 calendar days after the subcontractor's work has been satisfactorily completed. The Contractor shall hold no retainage from the subcontractors.

This Special Provision does not create any rights in favor of any subcontractor against the State of Illinois or authorize any cause of action against the State of Illinois on account of any payment, nonpayment, delayed payment or interest claimed by application of the State Prompt Payment Act. The Department will neither determine the reasonableness of any cause for delay of payment nor enforce any claim to payment, including interest. Moreover, the Department will not approve any delay or postponement of the 15 day requirement. State law creates 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 in accordance with the Public Construction Bond Act, 30 ILCS 550.

## **PERSONAL PROTECTIVE EQUIPMENT (BDE)**

Effective: July 1, 2004

All personnel, excluding flaggers, working outside of a vehicle (car or truck) within 7.6 m (25 ft) of pavement open to traffic shall wear a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/.green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have manufacturers tags identifying them as meeting the ANSI Class 2 requirement.

## **PLASTIC BLOCKOUTS FOR GUARDRAIL (BDE)**

Effective: November 1, 2004

Add the following to Article 630.02 of the Standard Specifications:

“(h) Plastic Blockouts (Note 1.)

Note 1. Plastic blockouts, 150 mm (6 in.) deep, may be used in lieu of 150 mm (6 in.) deep wood block-outs for steel plate beam guardrail. The plastic blockouts shall be on the Department’s approved list.”

## **PORTABLE CHANGEABLE MESSAGE SIGNS (BDE)**

Effective: November 1, 1993

Revised: April 2, 2004

Description. This work shall consist of furnishing, placing, and maintaining changeable message sign(s) at the locations(s) shown on the plans or as directed by the Engineer.

The sign(s) shall be trailer mounted. The message panel shall be at least 2.1 m (7 ft) above the pavement, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time. Character height shall be 450 mm (18 in.).

The message panel shall be of either a bulb matrix or disc matrix design controlled by an onboard computer capable of storing a minimum of 99 programmed messages for instant recall. The computer shall be capable of being programmed to accept messages created by the operator via an alpha-numeric keyboard and able to flash any six messages in sequence. The message panel shall also be capable of being controlled by a computer from a remote location via a cellular linkage. The Contractor shall supply the modem, the cellular phone, and the necessary software to run the sign from a remote computer at a location designated by the Engineer. The Contractor shall promptly program and/or reprogram the computer to provide the messages as directed by the Engineer.

The message panel shall be visible from 400 m (1/4 mile) under both day and night conditions. The letters shall be legible from 250 m (750 ft).

The sign shall include automatic dimming for nighttime operation and a power supply capable of providing 24 hours of uninterrupted service.

The Contractor shall provide all preventive maintenance efforts s(he) deems necessary to achieve uninterrupted service. If service is interrupted for any cause and not restored within 24 hours, the Engineer will cause such work to be performed as may be necessary to provide this service. The cost of such work shall be borne by the Contractor or deducted from current or future compensation due the Contractor.

When the sign(s) are displaying messages, they shall be considered a traffic control device. At all times when no message is displayed, they shall be considered equipment.

Basis of Payment. When portable changeable message signs are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other portable changeable message signs, this work will be paid for at the contract unit price per calendar month for each sign as CHANGEABLE MESSAGE SIGN.

#### **PORTLAND CEMENT (BDE)**

Effective: January 1, 2005

Replace the first sentence of the second paragraph of Article 1001.01 of the Standard Specifications with the following:

“For portland cement according to ASTM C 150, the addition of up to 5.0 percent limestone by mass (weight) to the cement will not be permitted. Also, the total of all organic processing additions shall not exceed 1.0 percent by mass (weight) of the cement and the total of all inorganic processing additions shall not exceed 4.0 percent by mass (weight) of the cement.”

80139

#### **PORTLAND CEMENT CONCRETE (BDE)**

Effective: November 1, 2002

Add the following paragraph after the fourth paragraph of Article 1103.01(b) of the Standard Specifications:

“The truck mixer shall be approved before use according to the Bureau of Materials and Physical Research’s Policy Memorandum, “Approval of Concrete Plants and Delivery Trucks”.”

Add the following paragraph after the first paragraph of Article 1103.01(c) of the Standard Specifications:

“The truck agitator shall be approved before use according to the Bureau of Materials and Physical Research’s Policy Memorandum, “Approval of Concrete Plants and Delivery Trucks”.”

Add the following paragraph after the first paragraph of Article 1103.01(d) of the Standard Specifications:

“The nonagitator truck shall be approved before use according to the Bureau of Materials and Physical Research’s Policy Memorandum, “Approval of Concrete Plants and Delivery Trucks”.”

Revise the first sentence of the first paragraph of Article 1103.02 of the Standard Specifications to read:

“The plant shall be approved before production begins according to the Bureau of Materials and Physical Research’s Policy Memorandum, “Approval of Concrete Plants and Delivery Trucks”.”

80083

**PORTLAND CEMENT CONCRETE PATCHING (BDE)**

Effective: January 1, 2001

Revised: January 1, 2004

Revise Note 1 of Article 442.02 of the Standard Specifications, to read:

"Note 1. When patching ramp pavements and two lane pavements with two way traffic, Class PP-2, PP-3, or PP-4 concrete shall be used for Class A, Class B and Class C patching. For all other pavements, Class PP-1, PP-2, PP-3, or PP-4 concrete shall be used, at the Contractor’s option, for Class A, Class B and Class C patching."

Delete Note 2 of Article 442.02 of the Standard Specifications.

Add the following to Article 442.02 of the Standard Specifications:

“(I) Calcium Chloride (Note 5)..... 1013.01

Note 5. The calcium chloride accelerator, when permitted by the Department, shall be Type L (Liquid) with a minimum of 32.0 percent by mass (weight) of calcium chloride.”



Revise the first paragraph of Article 442.06(e) of the Standard Specifications to read:

"(e) Concrete Placement. For Class A, Class B and Class C Patches, concrete shall be placed according to Article 420.07 and governed by the limitations set forth in Article 1020.14, except that the maximum temperature of the mixed concrete immediately before placing shall be 35 °C (96 °F), the required use of an approved retarding admixture when the plastic concrete reaches 30 °C (85 °F) shall not apply."

Revise the first paragraph of Article 442.06(h) of the Standard Specifications to read:

"(h) Curing and Protection. In addition to Article 1020.13, when the air temperature is less than 13 °C (55 °F), the Contractor shall cover the patch with minimum R12 insulation until opening strength is reached. Insulation is optional when the air temperature is 13 °C - 35 °C (55 °F - 96 °F). Insulation shall not be placed when the air temperature is greater than 35 °C (96 °F)."

Revise the second paragraph of Article 701.05(e)(1)d.1. of the Standard Specifications to read:

"No open holes, broken pavement, or partially filled holes shall remain overnight for bituminous patching or when the Department specifies only Class PP-2, PP-3, or PP-4 concrete be used. The only exception is conditions beyond the control of the Contractor."

Revise Article 701.05(e)(2)b. of the Standard Specifications to read:

"b. Strength Tests. For patches constructed with Class PP-1, PP-2, PP-3, or PP-4 concrete, the pavement may be opened to traffic when test specimens cured with the patches have obtained a minimum flexural strength of 4150 kPa (600 psi) or a minimum compressive strength of 22,100 kPa (3200 psi) according to Article 1020.09.

For patches constructed with Class PP-2, PP-3, or PP-4 concrete which can obtain a minimum flexural strength of 4150 kPa (600 psi) or a minimum of compressive strength of 22,100 kPa (3200 psi) in 16 hours, the pavement may be opened to traffic at a lower opening strength. The specimens cured with the patches shall have obtained a minimum flexural strength of 2050 kPa (300 psi) or a minimum compressive strength of 11,000 kPa (1600 psi) according to Article 1020.09, to permit opening pavement to traffic.

With the approval of the Engineer, concrete strength may be determined according to AASHTO T 276. The strength-maturity relationship shall be developed from concrete which has an air content near the upper specification limit. The strength-maturity relationship shall be re-established if the mix design or materials are changed."

Revise Article 701.05(e)(2)c. of the Standard Specifications to read:

- "c. Construction Operations. For Class PP-2, PP-3, or PP-4 concrete used on ramp pavements and two lane pavements with two way traffic, or when the Department specifies only Class PP-2, PP-3, or PP-4 concrete be used for other pavements, Contractor construction operations shall be performed in a manner which allows the patches to be opened the same day and before nightfall. If patches are not opened before nightfall, the additional traffic control shall be at the Contractor's expense. Any time patches cannot be opened before nightfall, the Contractor shall change subsequent construction operations or the mix design. The changes shall be at no additional cost to the Department."

Revise Table 1 of Article 1020.04 of the Standard Specifications by replacing Class PP concrete with the following:

"TABLE 1. CLASSES OF PORTLAND CEMENT CONCRETE AND MIX DESIGN CRITERIA				
Class of Concrete	Use	Specification Section Reference	Cement Factor kg/cu m (cwt/cu yd)	Max. Water/Cement Ratio kg/kg (lb/lb)
PP-1	PCC Pavement Patching Bridge Deck Patching	442	Type I Cement 385 to 445 (6.50 to 7.50) Type III Cement 365 to 425 (6.20 to 7.20)	0.44
PP-2	PCC Pavement Patching Bridge Deck Patching	442	Type I Cement 435 (7.35)	0.38
PP-3	PCC Pavement Patching Bridge Deck Patching	442	Type III Cement 435 (7.35)	0.35
PP-4	PCC Pavement Patching Bridge Deck Patching	442	Rapid Hardening Cement 355 to 370 (6.00 to 6.25)	0.50

For PP-1, the Contractor has the option to replace the Type I Cement with Class C fly ash or ground granulated blast-furnace slag. The amount of cement replaced shall not exceed 15 percent by mass (weight), at a minimum replacement ratio of 1.5:1.

For PP-2, the Contractor has the option to replace the Type I cement with ground granulated blast-furnace slag. The amount of cement replaced shall not exceed 30 percent by mass (weight), at a minimum replacement ratio of 1:1.

For PP-3, in addition to the cement, 60 kg/cu m (100 lb/cu yd) of ground granulated blast-furnace slag and 30 kg/cu m (50 lb/cu yd) of microsilica are required. For an air temperature greater than 30 °C (85 °F), the Contractor has the option to replace the Type III cement with Type I cement.

For PP-4, the cement shall be from the Department's "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs".

TABLE 1. (CONT'D) CLASSES OF PORTLAND CEMENT CONCRETE AND MIX DESIGN CRITERIA					
Class of Concrete	Slump, mm (in.)	Mix Design Compressive Strength, kPa (psi)	Mix Design Flexural Strength, kPa (psi)	Air Content, %	Coarse Aggregate Gradations Permitted
		Hours	Hours		
		48	48		
PP – 1	100 (4) Max	22,100 (3200)	4150 (600)	4.0 – 7.0	CA-7, CA-11, CA-13, CA14, or CA-16
PP – 2	150 (6) Max	22,100 (3200)	4150 (600)	4.0 – 6.0	CA-7, CA-11, CA-13, CA14, or CA-16
PP – 3	100 (4) Max	22,100 (3200)	4150 (600)	4.0 – 6.0	CA-7, CA-11, CA-13, CA14, or CA-16
PP – 4	150 (6) Max	22,100 (3200)	4150 (600)	4.0 – 6.0	CA-7, CA-11, CA-13, CA14, or CA-16

For PP-1, PP-2, PP-3 or PP-4; only CA-13, CA-14, or CA-16 may be used for bridge deck patching. In addition, the mix design strength at 48 hours shall be increased to 27,500 kPa (4,000 psi) compressive or 4,650 kPa (675 psi) flexural for bridge deck patching.

For PP-1, the slump may be increased to 150 mm (6 in.) Max if a high range water-reducing admixture is used.”

Delete Article 1020.05(g) of the Standard Specifications.

## **PRECAST CONCRETE PRODUCTS (BDE)**

Effective: July 1, 1999

Revised: November 1, 2004

Product Approval. Precast concrete products shall be produced according to the Department's current Policy Memorandum, "Quality Control/Quality Assurance Program for Precast Concrete Products". The Policy Memorandum applies to precast concrete products listed under the Products Key of the "Approved List of Certified Precast Concrete Producers".

Precast Concrete Box Culverts. Add the following sentence to the end of the fourth paragraph of Article 540.06:

"After installation, the interior and exterior joint gap between precast concrete box culvert sections shall not exceed 38 mm (1 1/2 in.)."

Portland Cement Replacement. For precast concrete products using Class PC concrete or other mixtures, portland cement replacement with fly ash or ground granulated blast-furnace (GGBF) slag shall be governed by the AASHTO or ASTM standard specification referenced in the Standard Specifications.

For all other precast concrete products using Class PC concrete or other mixtures, portland cement replacement with fly ash or GGBF slag shall be approved by the Engineer. Class F fly ash shall not exceed 15 percent by mass (weight) of the total portland cement and Class F fly ash. Class C fly ash shall not exceed 20 percent by mass (weight) of the total portland cement and Class C fly ash. GGBF slag shall not exceed 25 percent by mass (weight) of the total portland cement and GGBF slag.

Concrete mix designs, for precast concrete products, shall not consist of portland cement, fly ash and GGBF slag.

Ready-Mixed Concrete. Delete the last paragraph of Article 1020.11(a) of the Standard Specifications.

Shipping. When a precast concrete product has attained the specified strength, the earliest the product may be loaded, shipped, and used is on the fifth calendar day. The first calendar day shall be the date casting was completed.

Acceptance. Products which have been lot or piece inspected and approved by the Department prior to July 1, 1999, will be accepted for use on this contract.

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**PREFORMED RECYCLED RUBBER JOINT FILLER (BDE)**

Effective: November 1, 2002

Revise Article 503.02(c) of the Standard Specifications to read:

“(c) Preformed Expansion Joint Filler ..... 1051”

Revise Article 637.02(d) of the Standard Specifications to read:

“(d) Preformed Expansion Joint Filler ..... 1051”

Add the following Article to Section 1051 of the Standard Specifications:

“1051.10 Preformed Recycled Rubber Joint Filler. Preformed recycled rubber joint filler shall consist of ground tire rubber, free of steel and fabric, combined with ground scrap or waste polyethylene. It shall not have a strong hydrocarbon or rancid odor and shall meet the physical property requirements of ASTM D 1752. Water absorption by volume shall not exceed 5.0 percent.”

**RAP FOR USE IN BITUMINOUS CONCRETE MIXTURES (BDE)**

Effective: January 1, 2000

Revised: April 1, 2002

Revise Article 1004.07 to read:

“**1004.07 RAP Materials.** RAP is reclaimed asphalt pavement resulting from cold milling or crushing of an existing dense graded hot-mix asphalt pavement. RAP must originate from routes or airfields under federal, state or local agency jurisdiction. The Contractor shall supply documentation that the RAP meets these requirements.

(a) Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP will be allowed on top of the pile after the pile has been sealed.

(1) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only and represent the same aggregate quality, but shall be at least C quality or better, the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag), similar gradation and similar AC 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. Homogenous stockpiles shall meet the requirements of Article 1004.07(d). Homogeneous RAP stockpiles not meeting these requirements may be processed (crushing and screening) and retested.

(2) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only. The coarse aggregate in this RAP shall be crushed aggregate only and may represent more than one aggregate type and/or quality but shall be at least C quality or better. This RAP may have an inconsistent gradation and/or asphalt cement content prior to processing. All conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 16 mm (5/8 in.) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate RAP stockpiles shall meet the requirements of Article 1004.07(d).

(3) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP containing coarse aggregate (crushed or round) that is at least D quality or better. This RAP may have an inconsistent gradation and/or asphalt content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate DQ RAP shall meet the requirements of Article 1004.07(d).

Reclaimed Superpave Low ESAL IL-9.5L surface mixtures shall only be placed in conglomerate DQ RAP stockpiles due to the potential for rounded aggregate.

(4) Other. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Other". "Other" RAP stockpiles shall not be used in any of the Department's bituminous mixtures.

(b) Use. The allowable use of a RAP stockpile shall be set by the lowest quality of coarse aggregate in the RAP stockpile. Class I/Superpave surface mixtures are designated as containing Class B quality coarse aggregate only. Superpave Low ESAL IL-19.0L binder and IL-9.5L surface mixtures are designated as Class C quality coarse aggregate only. Class I/Superpave binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate only. Bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate only. Any mixture not listed above shall have the designated quality determined by the Department.

RAP containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in Class I/Superpave (including Low ESAL) surface mixtures only. RAP stockpiles for use in Class I/Superpave mixtures (including Low ESAL), base course, base course widening and Class B mixtures shall be either homogeneous or conglomerate RAP stockpiles except conglomerate RAP stockpiles shall not be used in Superpave surface mixture Ndesign 50 or greater. RAP for use in bituminous aggregate mixtures (BAM) shoulders and BAM stabilized subbase shall be from homogeneous, conglomerate, or conglomerate DQ stockpiles.

Additionally, RAP used in Class I/Superpave surface mixtures shall originate from milled or crushed mixtures only, in which the coarse aggregate is of Class B quality or better. RAP stockpiles for use in Class I/Superpave (including Low ESAL) binder mixes as well as base course, base course widening and Class B mixtures shall originate from milled or processed surface mixture, binder mixture, or a combination of both mixtures uniformly blended to the satisfaction of the Engineer, in which the coarse aggregate is of Class C quality or better.

(c) Contaminants. RAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

(d) Testing. All RAP 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 450 metric tons (500 tons) for the first 1800 metric tons (2,000 tons) and one sample per 1800 metric tons (2,000 tons) thereafter. A minimum of five tests shall be required for stockpiles less than 3600 metric tons (4,000 tons).

For testing existing stockpiles, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to extract representative samples throughout the pile for testing.

Before extraction, each field sample shall be split to 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.

All of the extraction results shall be compiled and averaged for asphalt content and gradation. Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	Homogeneous / Conglomerate	Conglomerate "D" Quality
25 mm (1 in.)		± 5%
12.5 mm (1/2 in.)	± 8%	± 15%
4.75 mm (No. 4)	± 6%	± 13%
2.36 mm (No. 8)	± 5%	
1.18 mm (No. 16)		± 15%
600 μm (No. 30)	± 5%	
75 μm (No. 200)	± 2.0%	± 4.0%
AC	± 0.4%	± 0.5%

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt content test results fall outside the appropriate tolerances, the RAP will not be allowed to be used in the Department's bituminous concrete mixtures unless the RAP representing the failing tests is removed from the stockpile to the satisfaction of the Engineer. 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)".

- (e) Designs. At the Contractor's option, bituminous concrete mixtures may be constructed utilizing RAP material meeting the above detailed requirements. The amount of RAP included in the mixture shall not exceed the percentages specified in the plans.

RAP designs shall be submitted for volumetric verification. If additional RAP 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 stockpile and design, and meets all of the requirements herein, the additional RAP stockpiles may be used in the original mix design at the percent previously verified.

- (f) Production. The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the bituminous mixture being produced.



To remove or reduce agglomerated material, a scalping screen, 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 control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP and either switch to the virgin aggregate design or submit a new RAP design.

**SEEDING AND SODDING (BDE)**

Effective: July 1, 2004

Revised: August 1, 2005

Revise Class 1A and 2A seeding mixtures shown in Table 1 of Article 250.07 of the Standard Specifications to read:

"Table 1 - SEEDING MIXTURES			
	Class – Type	Seeds	kg/hectare (lb/acre)
1A	Salt Tolerant Lawn Mixture 7/	Bluegrass	70 (60)
		Perennial Ryegrass	20 (20)
		Audubon Red Fescue	20 (20)
		Rescue 911 Hard Fescue	20 (20)
		Fults Salt Grass*	70 (60)
2A	Salt Tolerant Roadside Mixture 7/	Alta Fescue or Ky 31	70 (60)
		Perennial Ryegrass	20 (20)
		Audubon Red Fescue	20 (30)
		Rescue 911 Hard Fescue	20 (30)
		Fults Salt Grass 1/	70 (60)"

Revise Note 7 of Article 250.07 of the Standard Specifications to read:

“Note 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 one growing season. The guarantee shall be submitted to the Engineer in writing prior to performing the work. After one growing season, areas not sustaining 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at the Contractor’s expense.”

Add the following sentence to Article 252.04 of the Standard Specifications:

“Sod shall not be placed during the months of July and August.”

Revise the first paragraph of Article 252.08 of the Standard Specifications to read:

“**252.08 Sod Watering.** Within two hours after the sod has been placed, water shall be applied at a rate of 25 L/sq m (5 gal/sq yd). Additional water shall be applied every other day at a rate of 15 L/sq m (3 gal/sq yd) for a total of 15 additional waterings. During periods exceeding 26 °C (80 °F) or subnormal rainfall, the schedule of additional waterings may be altered with the approval of the Engineer.”

Revise Article 252.09 of the Standard Specifications to read:

“**252.09 Supplemental Watering.** During periods exceeding 26 °C (80 °F) or subnormal rainfall, supplemental watering may be required after the initial and additional waterings. Supplemental watering shall be performed when directed by the Engineer. Water shall be applied at the rate specified by the Engineer within 24 hours of notice.”

Revise the first and third paragraphs of Article 252.12 of the Standard Specifications to read:

“**252.12 Method of Measurement.** Sodding will be measured for payment in place and the area computed in square meters (square yards). To be acceptable for final payment, the sod shall be growing in place for a minimum of 30 days in a live, healthy condition. When directed by the Engineer, any defective or unacceptable sod shall be removed, replaced and watered by the Contractor at his/her own expense.”

“Supplemental watering will be measured for payment in units of 1000 L (1000 gal) of water applied on the sodded areas. Waterings performed in addition to those required by Article 252.08 or after the 30 day establishment period will be considered as supplemental watering.”

Replace the first paragraph of Article 252.13 of the Standard Specifications with the following:

**“252.13 Basis of Payment.** Sodding will be paid for at the contract unit price per square meter (square yard) for SODDING or SODDING, SALT TOLERANT according to the following schedule.

- (a) Initial Payment. Upon placement of sod, 25 percent of the pay item will be paid.
- (b) Final Payment. Upon acceptance of sod, the remaining 75 percent of the pay item will be paid.”

Revise Article 1081.03(b) of the Standard Specifications to read:

“(b) Salt Tolerant Sod.

Variety	Percent by Weight
Buffalo Grass	30%
Buchloe Dactyloides	
Amigo Fineleaf Tall Fescue	20%
Audubon Red Fescue	15%
Rescue 911 Hard Fescue	15%
Rugby Kentucky Bluegrass	5%
Fults Pucinnellia Distans	15%”

FAI Route 94/90 (Dan Ryan Expressway)  
31st Street to 71st Street (SB Express Lanes)  
Section (1818, ETC, 2324.6-1P)R-9  
Cook County

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 Noxious Weeds	Remarks
	Percent	Percent	Seed Percent	Percent	No. per kg (oz)	
	Maximum	Minimum	Minimum	Maximum	Max. Permitted*	
Alfalfa	20	92	89	0.50	211 (6)	1/
Brome Grass	-	90	75	0.50	175 (5)	-
Clover, Alsike	15	92	87	0.30	211 (6)	2/
Clover, Crimson	15	92	83	0.50	211 (6)	-
Clover, Ladino	15	92	87	0.30	211 (6)	-
Clover, Red	20	92	87	0.30	211 (6)	-
Clover, White Dutch	30	92	87	0.30	211 (6)	3/
Audubon Red Fescue	0	97	82	0.10	105 (3)	-
Fescue, Alta or Ky. 31	-	97	82	1.00	105 (3)	-
Fescue, Creeping Red	-	97	82	1.00	105 (3)	-
Fults Salt Grass	0	98	85	0.10	70 (2)	-
Kentucky Bluegrass	-	97	80	0.30	247 (7)	5/
Lespedeza, Korean	20	92	84	0.50	211 (6)	3/
Oats	-	92	88	0.50	70 (2)	4/
Orchard Grass	-	90	78	1.50	175 (5)	4/
Redtop	-	90	78	1.80	175 (5)	4/
Ryegrass, Perennial, Annual	-	97	85	0.30	175 (5)	4/
Rye, Grain, Winter	-	92	83	0.50	70 (2)	4/
Rescue 911 Hard Fescue	0	97	82	0.10	105 (3)	-
Timothy	-	92	84	0.50	175 (5)	4/
Vetch, Crown	30	92	67	1.00	211 (6)	3/ & 6/
Vetch, Spring	30	92	88	1.00	70 (2)	4/
Vetch, Winter	15	92	83	1.00	105 (3)	4/
Wheat, hard Red Winter	-	92	89	0.50	70 (2)	4/

## **SELF-CONSOLIDATING CONCRETE FOR PRECAST PRODUCTS (BDE)**

Effective: July 1, 2004

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. The design and testing of a self-consolidating concrete mixture shall be according to Section 1020 of the Standard Specifications except as modified herein.

Materials. Materials shall conform to the following requirements:

- (a) 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 flowable concrete that does not require mechanical vibration.

The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F.

The viscosity modifying admixture will be evaluated according to the test methods and mix design proportions referenced in AASHTO M 194, except the following physical requirements shall be met:

- (1) For initial and final set times, the allowable deviation of the test concrete from the reference concrete shall not be more than 1.0 hour earlier or 1.5 hours later.
  - (2) For compressive and flexural strengths, the test concrete shall be a minimum of 90 percent of the reference concrete at 3, 7 and 28 days.
  - (3) The length change of the test concrete shall be a maximum 135 percent of the reference concrete. However, if the length change of the reference concrete is less than 0.030 percent, the length change of the test concrete shall be a maximum 0.010 percentage units greater than the reference concrete.
  - (4) The relative durability factor of the test concrete shall be a minimum 80 percent.
- (b) Fine Aggregate. A fine aggregate used alone in the mix design shall not have an expansion greater than 0.30 percent per ASTM C 1260. For a blend of two or more fine aggregates, the resulting blend shall not have an expansion greater than 0.30 percent.

The aggregate blend expansion will be calculated as follows:

$$\text{Aggregate Blend Expansion} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots \text{etc.}$$

Where: a, b, c, ... = percent of aggregate blend

A, B, C, ... = aggregate expansion according to ASTM C 1260

Mix Design Criteria. The slump requirements of Article 1020.04 of the Standard Specifications shall not apply. In addition, the allowable coarse aggregate gradations shall be CA 11, CA 13, CA 14, CA 16, or a blend of these gradations. The fine aggregate proportion shall be a maximum 50 percent by mass (weight) of the total aggregate used.

Trail Batch. A minimum 1 cu m (1 cu yd) trial batch shall be produced. The mixture will be evaluated for air content, slump flow, visual stability index, compressive strength, passing ability, and static/dynamic segregation resistance.

The trial batch shall be scheduled and performed in the presence of the Engineer. Testing shall be performed per the Department's test method or as approved by the Engineer.

For the trial batch, the air content shall be within the top half of the allowable specification range. The slump flow range shall be 510 mm (20 in.) minimum to 710 mm (28 in.) maximum. The visual stability index shall be a maximum of 1. Strength shall be determined at 28 days. At the Contractor's option, strength may be determined for additional days.

Passing ability and static/dynamic segregation resistance shall be determined by tests selected by the Contractor and approved by the Engineer. The visual stability index shall not be used as the sole criteria for evaluating static segregation resistance.

After an acceptable mixture has been batched and tested, the mixture shall also be evaluated for robustness. Robustness shall be evaluated by varying the dosage of the self-consolidating admixture system and water separately. Additional trial batches may be necessary to accomplish this.

When necessary, the trial batches shall be disposed of according to Article 202.03 of the Standard Specifications.

Quality Control. Once testing is completed and acceptable results have been attained, production test frequencies and allowable test ranges for slump flow, visual stability index, passing ability, and static/dynamic segregation resistance shall be proposed. The production test frequencies and allowable test ranges will be approved by the Engineer.

The slump flow range shall be  $\pm 50$  mm ( $\pm 2$  in.) of the target value, and within the overall range of 510 mm (20 in.) minimum to 710 mm (28 in.) maximum. The visual stability index shall be a maximum of 1. The approved test ranges for passing ability and static/dynamic segregation resistance will be based on recommended guidelines determined by the Engineer.

**SHOULDER STABILIZATION AT GUARDRAIL (BDE)**

Effective: January 1, 2005

Revise the last sentence of the second paragraph of Article 630.06 of the Standard Specifications to read:

“The void around each post shall be backfilled with earth or aggregate and capped with 75 mm (3 in.) of bituminous mixture or grout.”

Replace the last sentence of the third paragraph of Article 630.06 of the Standard Specifications with the following:

“Guardrail posts shall be driven through holes cored in the completed shoulder stabilization. The void around each post shall be backfilled with earth or aggregate and capped with 75 mm (3 in.) of bituminous mixture or grout.”

Add the following paragraph to the end of Article 630.06 of the Standard Specifications:

“When driving guardrail posts through existing shoulders, shoulder stabilization, or other paved areas, the posts shall be driven through cored holes. The void around each post shall be backfilled with earth or aggregate and capped with 75 mm (3 in.) of bituminous mixture or grout.”

**STABILIZED SUBBASE AND BITUMINOUS SHOULDERS SUPERPAVE (BDE)**

Effective: April 1, 2002

Revised: August 1, 2005

Description. This work shall consist of constructing stabilized subbase and bituminous shoulders Superpave according to Sections 312 and 482 respectively, of the Standard Specifications and the special provision, “Quality Control/Quality Assurance of Bituminous Concrete Mixtures” except as modified herein.

Revise Article 312.03(b) of the Standard Specifications to read:

“(b) RAP Material (Note 3)”

Revise Note 2 of Article 312.03 of the Standard Specifications to read:

“Note 2. Gradation CA 6, CA 10, or CA 12 shall be used.”

Revise Note 3 of Article 312.03 of the Standard Specifications to read:

“Note 3. RAP shall meet the requirements of the special provision “RAP for Use in Bituminous Concrete Mixtures”. RAP containing steel slag shall be permitted for use in top-lift surface mixtures only.”

Revise Note 4 of Article 312.03 of the Standard Specifications to read:

"Note 4. Unless otherwise specified on the plans, the bituminous material shall be performance graded asphalt cement, PG58-22. When more than 15 percent RAP is used, a softer PG binder may be required as determined by the Engineer."

Revise Article 312.06 of the Standard Specifications to read:

**"312.06 Mixture Design.** The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have completed the course, "Superpave Mix Design Upgrade". The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below:

- AASHTO MP 2 Standard Specification for Superpave Volumetric Mix Design
- AASHTO R 30 Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
- AASHTO PP 28 Standard Practice for Designing Superpave HMA
- AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
- AASHTO T 312 Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyrotory Compactor
- AASHTO T 308 Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Job Mix Formula (JMF). The JMF shall be according to the following limits:

<u>Ingredient</u>	<u>Percent by Dry Weight</u>
Aggregate.....	94.0 to 96.0
Asphalt Cement.....	4.0 to 6.0*
Dust/AC Ratio .....	1.4

\*Upper limit may be raised for the lower or top lifts if the Contractor elects to use a highly absorptive coarse and/or fine aggregate requiring more than six percent asphalt. The additional asphalt shall be furnished at no cost to the Department.

When RAP material is being used, the JMF shall be according to the following limits:

<u>Ingredient</u>	<u>Percent by Dry Weight</u>
Virgin Aggregate(s) .....	46.0 to 96.0
RAP Material(s) (Note 1) .....	0 to 50
Mineral Filler (if required) .....	0 to 5.0
Asphalt Cement.....	4.0 to 7.0
Dust/AC Ratio .....	1.4



Note 1. If specified on the plans, the maximum percentage of RAP shall be as specified therein.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

(b) Volumetric Requirements.

Design Compactive Effort	Design Air Voids Target (%)
$N_{DES} = 30$	2.0

(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 using 4 in. Marshall bricks. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSR) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSR values less than 0.75 will be considered unacceptable.

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. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications."

Revise Article 312.08 of the Standard Specifications to read:

**"312.08 Mixture Production.** When a hot-mix plant conforming to Article 1102.01 is used, the aggregate shall be dried and heated in the revolving dryer to a temperature of 120 °C (250 °F) to 175 °C (350 °F).

The aggregate and bituminous material used in the bituminous aggregate mixture shall be measured separately and accurately by weight or by volume. When the aggregate is in the mixer, the bituminous material shall be added and mixing continued for a minimum of 35 seconds and until a homogeneous mixture is produced in which all particles of the aggregate are coated. The mixing period, size of the batch and the production rate shall be approved by the Engineer.

The ingredients shall be heated and combined in such a manner as to produce a mixture which, when discharged from the mixer, shall be workable and vary not more 10 °C (20 °F) from the temperature set by the Engineer.

When RAP material(s) is used in the bituminous aggregate mixture, the virgin aggregate(s) shall be dried and heated in the dryer to a temperature that will produce the specified resultant mix temperature when combined with the RAP material.

The heated virgin aggregates and mineral filler shall be combined with RAP material in such a manner as to produce a bituminous mixture which when discharged from the mixer shall not vary more than 15 °C (30 °F) from the temperature set by the Engineer. The combined ingredients shall be mixed for a minimum of 35 seconds and until a homogeneous mixture as to composition and temperature is obtained. The total mixing time shall be a minimum of 45 seconds consisting of dry and wet mixing. Variation in wet and dry mixing times may be permitted, depending on the moisture content and amount of salvaged material used. The mix temperature shall not exceed 175 °C (350 °F). Wide variations in the mixture temperature will be cause for rejection of the mix.

- (a) Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".

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 Section (1818, ETC, 2324.6-1P)R-9  
 Cook County

(b) Required Tests. Testing for stabilized subbase and bituminous shoulders shall be conducted to control the production of the bituminous mixture using the test methods identified and performed at a frequency not less than indicated in the following table.

Parameter	Frequency of Tests Non-Class I Mixtures	Test Method
Aggregate Gradation  Hot bins for batch and continuous plants.  Individual cold-feeds or combined belt-feed for drier-drum plants.  (% passing sieves: 12.5 mm (1/2 In.), 4.75 mm (No. 4), 75 µm (No. 200))	1 gradation per day of production.  The first day of production shall be washed ignition oven test on the mix. Thereafter, the testing shall alternate between dry gradation and washed ignition oven test on the mix.  The dry gradation and the washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by ignition oven (Note 1.)	1 per day	Illinois-Modified AASHTO T 308
Air Voids		
Bulk Specific Gravity of Gyratory Sample	1 per day	Illinois-Modified AASHTO T 312
Maximum Specific Gravity of Mixture	1 per day	Illinois-Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the AC content.

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.6, and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resumption of production.

During production, mixture containing an anti-stripping additive will be tested by the Engineer for stripping according to Illinois Modified AASHTO T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

- (c) Control Charts/Limits. Control charts/limits shall be according to QC/QA requirements for Non-Class I Mixtures except air voids and density shall be plotted on the control charts within the following control limits:

Individual Test Control Limits	
Voids	±1.2%
Density <sup>1/</sup>	93.0 – 97.4% of G <sub>mm</sub>

- 1/ Except when placed as first lift over unimproved subgrade. When the exception applies, the first lift over unimproved subgrade shall be compacted to an average density of not less than 95 percent nor greater than 102 percent of the target density obtained on the growth curve.

Replace Article 312.10 of the Standard Specifications with the following:

**“312.10 Placing.** After the subgrade has been compacted and is acceptable to the Engineer, the bituminous aggregate mixture shall be spread upon it with a mechanical spreader. The maximum compacted thickness of each lift shall be 150 mm (6 in.) provided the required density is obtained. The minimum compacted thickness of each lift shall be according to the following table:

Nominal Maximum Aggregate Size of Mixture	Minimum Compacted Lift Thickness
CA 12 – 12.5 mm (1/2 in.)	38 mm (1 1/2 in.)
CA 10 - 19 mm (3/4 in.)	57 mm (2 1/4 in.)
CA 6 – 25 mm (1 in.)	76 mm (3 in.)

The surface of each lift shall be clean and dry before succeeding lifts are placed.”

Revise Article 482.02 of the Standard Specifications to read:

**“482.02 Materials.** Materials shall meet the requirements of Article 312.03. For the top lift, the aggregate used shall meet the gradation requirements for a CA 10 or CA 12. Blending of aggregates to meet these gradation requirements will be permitted.”

Revise the first paragraph of Article 482.04 of the Standard Specifications to read:

**“482.04 General.** For pavement and shoulder resurfacing projects, Superpave binder and surface course mixtures may be used in lieu of bituminous aggregate mixture for the resurfacing of shoulders, at the option of the Contractor, or shall be used when specified on the plans.”

Revise Article 482.04(c) of the Standard Specifications to read:

“(c) Mixture Production .....312.08”

Revise Article 482.05 of the Standard Specifications to read:

**“482.05 Composition of Bituminous Aggregate Mixture.** The composition of the mixture shall be according to Article 312.06, except that the amount of asphalt cement used in the top lift shall be increased up to 0.5 percent more than that required in the lower lifts. For resurfacing projects when the Superpave binder and surface course mixtures option is used, the asphalt cement used in the top lift shall not be increased. Superpave mixtures used on the top lift of such shoulders shall meet the gradation requirements of the special provision “Superpave Bituminous Concrete Mixtures”.

For shoulder and strip construction, the composition of the Superpave binder and surface course shall be the same as that specified for the mainline pavement.”

In the following locations of Section 482 of the Standard Specifications, change “Class I” to “Superpave”:

- the second paragraph of Article 482.04
- the first sentence of the second paragraph of Article 482.06
- the first sentence of the fourth paragraph of Article 482.06
- the second sentence of the fourth paragraph of Article 482.06
- the first sentence of the third paragraph of Article 482.08(b)

Revise the first paragraph of Article 482.06 of the Standard Specifications to read:

**“482.06 Placing.** This work shall be according to Article 312.10 as modified herein. The mechanical spreader for the top lift of shoulders shall meet the requirements of Article 1102.03 when the shoulder width is 3 m (10 ft) or greater.”

Revise Article 482.09 of the Standard Specifications to read:

**"482.09 Basis of Payment.** When bituminous shoulders are constructed along the edges of the completed pavement structure, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS SHOULDERS SUPERPAVE of the thickness specified. The specified thickness shall be the thickness shown on the plans at the edge of the pavement.

On pavement and shoulder resurfacing projects, the shoulder resurfacing will be paid for at the contract unit price per metric ton (ton) for BITUMINOUS SHOULDERS SUPERPAVE.

The construction of shoulder strips for resurfacing pavements will be paid according to the special provision, "Superpave Bituminous Concrete Mixtures".

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

Effective: April 2, 2005

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 in accordance with 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.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

### **SUBGRADE PREPARATION (BDE)**

Effective: November 1, 2002

Revise the tenth paragraph of Article 301.03 of the Standard Specifications to read:

"Equipment of such weight, or used in such a way as to cause a rut in the finished subgrade of 13 mm (1/2 in.) or more in depth, shall be removed from the work or the rutting otherwise prevented."

## **SUPERPAVE BITUMINOUS CONCRETE MIXTURES (BDE)**

Effective: January 1, 2000

Revised: April 1, 2004

Description. This work shall consist of designing, producing and constructing Superpave bituminous concrete mixtures using Illinois Modified Strategic Highway Research Program (SHRP) Superpave criteria. This work shall be according to Sections 406 and 407 of the Standard Specifications and the special provision, "Quality Control/Quality Assurance of Bituminous Concrete Mixtures", except as follows.

### Materials.

(a) Fine Aggregate Blend Requirement. The Contractor may be required to provide FA 20 manufactured sand to meet the design requirements. For mixtures with  $N_{design} \geq 90$ , at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation.

(b) Reclaimed Asphalt Pavement (RAP). If the Contractor is allowed to use more than 15 percent RAP, as specified in the plans, a softer performance-graded binder may be required as determined by the Engineer.

RAP shall meet the requirements of the special provision, "RAP for Use in Bituminous Concrete Mixtures".

RAP will not be permitted in mixtures containing polymer modifiers.

RAP containing steel slag will be permitted for use in top-lift surface mixtures only.

(c) Bituminous Material. The asphalt cement (AC) shall be performance-graded (PG) or polymer modified performance-graded (SBS-PG or SBR-PG) meeting the requirements of Article 1009.05 of the Standard Specifications for the grade specified on the plans.

The following additional guidelines shall be used if a polymer modified asphalt is specified:

(1) The polymer modified asphalt cement shall be shipped, maintained, and stored at the mix plant according to the manufacturer's requirements. Polymer modified asphalt cement shall be placed in an empty tank and shall not be blended with other asphalt cements.

(2) The mixture shall be designed using a mixing temperature of  $163 \pm 3$  °C ( $325 \pm 5$  °F) and a gyratory compaction temperature of  $152 \pm 3$  °C ( $305 \pm 5$  °F).

(3) Pneumatic-tired rollers will not be allowed unless otherwise specified by the Engineer. A vibratory roller meeting the requirements of Article 406.16 of the Standard Specifications shall be required in the absence of the pneumatic-tired roller.

Laboratory Equipment.

- (a) Superpave Gyratory Compactor. The superpave gyratory compactor (SGC) shall be used for all QC/QA testing.
- (b) Ignition Oven. The ignition oven shall be used to determine the AC content. The ignition oven shall also be used to recover aggregates for all required washed gradations.

The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the AC content.

Mixture Design. The Contractor shall submit mix designs, for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have successfully completed the course, "Superpave Mix Design Upgrade". Articles 406.10 and 406.13 of the Standard Specifications shall not apply. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below.

AASHTO MP 2	Standard Specification for Superpave Volumetric Mix Design
AASHTO R 30	Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
AASHTO PP 28	Standard Practice for Designing Superpave HMA
AASHTO T 209	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
AASHTO T 312	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
AASHTO T 308	Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method



- (a) Mixture Composition. The ingredients of the bituminous mixture shall be combined in such proportions as to produce a mixture conforming to the composition limits by weight. The gradation mixture specified on the plans shall produce a mixture falling within the limits specified in Table 1.

TABLE 1. MIXTURE COMPOSITION (% PASSING) <sup>1/</sup>								
Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm <sup>4/</sup>		IL-9.5 mm <sup>4/</sup>	
	min	max	min	max	Min	max	min	max
37.5 mm (1 1/2 in.)		100						
25 mm (1 in.)	90	100		100				
19 mm (3/4 in.)		90	82	100		100		
12.5 mm (1/2 in.)	45	75	50	85	90	100		100
9.5 mm (3/8 in.)						89	90	100
4.75 mm (#4)	24	42 <sup>2/</sup>	24	50 <sup>2/</sup>	28	65	28	65
2.36 mm (#8)	16	31	20	36	28	48 <sup>3/</sup>	28	48 <sup>3/</sup>
1.18 mm (#16)	10	22	10	25	10	32	10	32
600 µm (#30)								
300 µm (#50)	4	12	4	12	4	15	4	15
150 µm (#100)	3	9	3	9	3	10	3	10
75 µm (#200)	3	6	3	6	4	6	4	6

1/ Based on percent of total aggregate weight.

- 2/ The mixture composition shall not exceed 40 percent passing the 4.75 mm (#4) sieve for binder courses with Ndesign  $\geq$  90.
- 3/ The mixture composition shall not exceed 40 percent passing the 2.36 mm (#8) sieve for surface courses with Ndesign  $\geq$  90.
- 4/ The mixture composition for surface courses shall be according to IL-12.5 mm or IL-9.5 mm, unless otherwise specified by the Engineer.

One of the above gradations shall be used for leveling binder as specified in the plans and according to Article 406.04 of the Standard Specifications.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

- (b) Dust/AC Ratio for Superpave. The ratio of material passing the 75  $\mu$ m (#200) sieve to total asphalt cement shall not exceed 1.0 for mixture design (based on total weight of mixture).
- (c) Volumetric Requirements. The target value for the air voids of the hot mix asphalt (HMA) shall be 4.0 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the requirements listed in Table 2.

<b>TABLE 2. VOLUMETRIC REQUIREMENTS</b>					
<b>Ndesign</b>	<b>Voids in the Mineral Aggregate (VMA), % minimum</b>				<b>Voids Filled with Asphalt (VFA), %</b>
	<b>IL-25.0</b>	<b>IL-19.0</b>	<b>IL-12.5</b>	<b>IL-9.5</b>	
<b>50</b>	12.0	13.0	14.0	15	65 - 78
<b>70</b>					65 - 75
<b>90</b>					
<b>105</b>					

- (d) 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 T 283 using 4 in. Marshall bricks. To be considered acceptable by the Department as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSRs) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSRs less than 0.75 will be considered unacceptable.

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. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Department. The method of application shall be according to Article 406.12 of the Standard Specifications.

Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".

Required Plant Tests. Testing shall be conducted to control the production of the bituminous mixture. The Contractor shall use the test methods identified to perform the following mixture tests at a frequency not less than that indicated in Table 3.

<b>TABLE 3. REQUIRED PLANT TESTS for SUPERPAVE</b>		
<b>Parameter</b>	<b>Frequency of Tests</b>	<b>Test Method</b>
Aggregate Gradation  Hot bins for batch and continuous plants  Individual cold-feeds or combined belt-feed for drier drum plants.  (% passing sieves: 12.5 mm (1/2 in.), 4.75 mm (No. 4), 2.36 mm (No. 8), 600 µm (No. 30), 75 µm (No. 200))	1 dry gradation per day of production (either morning or afternoon sample).  And  1 washed ignition oven test on the mix per day of production (conduct in afternoon if dry gradation is conducted in the morning or vice versa).  NOTE. The order in which the above tests are conducted shall alternate from the previous production day (example: a dry gradation conducted in the morning will be conducted in the afternoon on the next production day and so forth).  The dry gradation and washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by Ignition Oven (Note 1.)	1 per half day of production	Illinois Modified AASHTO T 308
Air Voids	Bulk Specific Gravity of Gyratory Sample  Maximum Specific Gravity of Mixture	1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)  Illinois Modified AASHTO T 312  Illinois Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the AC content.

During production, the ratio of minus 75  $\mu\text{m}$  (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.2 and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75  $\mu\text{m}$  (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resuming production.

During production, mixtures containing an anti-stripping additive will be tested by the Department for stripping according to Illinois Modified T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

Construction Requirements

Lift Thickness.

- (a) Binder and Surface Courses. The minimum compacted lift thickness for constructing bituminous concrete binder and surface courses shall be according to Table 4:

<b>TABLE 4 – MINIMUM COMPACTED LIFT THICKNESS</b>	
Mixture	Thickness, mm (in.)
IL-9.5	32 (1 1/4)
IL-12.5	38 (1 1/2)
IL-19.0	57 (2 1/4)
IL-25.0	76 (3)

- (b) Leveling Binder. Mixtures used for leveling binder shall be as follows:

<b>TABLE 5 – LEVELING BINDER</b>	
Nominal, Compacted, Leveling Binder Thickness, mm (in.)	Mixture
$\leq 32$ (1 1/4)	IL-9.5
32 (1 1/4) to 50 (2)	IL 9.5 or IL-12.5

Density requirements shall apply for leveling binder when the nominal, compacted thickness is 32 mm (1 1/4 in.) or greater for IL-9.5 mixtures and 38 mm (1 1/2 in.) or greater for IL-12.5 mixtures.

- (c) Full-Depth Pavement. The compacted thickness of the initial lift of binder course shall be 100 mm (4 in.). The compacted thickness of succeeding lifts shall meet the minimums specified in Table 4 but not exceed 100 mm (4 in.).

If a vibratory roller is used for breakdown, the compacted thickness of the binder lifts, excluding the top lift, may be increased to 150 mm (6 in.) provided the required density is obtained.

- (d) Bituminous Patching. The minimum compacted lift thickness for constructing bituminous patches shall be according to Table 4.

Control Charts/Limits. Control charts/limits shall be according to QC/QA Class I requirements, except density shall be plotted on the control charts within the following control limits:

<b>TABLE 6. DENSITY CONTROL LIMITS</b>		
Mixture	Parameter	Individual Test
12.5 mm / 9.5 mm	Ndesign ≥ 90	92.0 – 96.0%
12.5 mm / 9.5 mm	Ndesign < 90	92.5 – 97.4%
19.0 mm / 25.0 mm	Ndesign ≥ 90	93.0 – 96.0%
19.0 mm / 25.0 mm	Ndesign < 90	93.0 – 97.4%

Basis of Payment. On resurfacing projects, this work will be paid for at the contract unit price per metric ton (ton) for BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, of the friction aggregate mixture and Ndesign specified, LEVELING BINDER (HAND METHOD), SUPERPAVE, of the Ndesign specified, LEVELING BINDER (MACHINE METHOD), SUPERPAVE, of the Ndesign specified, and BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition and Ndesign specified.

On resurfacing projects in which polymer modifiers are required, this work will be paid for at the contract unit price per metric ton (ton) for POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, of the friction aggregate mixture and Ndesign specified, POLYMERIZED LEVELING BINDER (HAND METHOD), SUPERPAVE, of the Ndesign specified, POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE, of the Ndesign specified, and POLYMERIZED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition and Ndesign specified.

On full-depth pavement projects, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE PAVEMENT, (FULL-DEPTH), SUPERPAVE, of the thickness specified.

On projects where widening is constructed and the entire pavement is then resurfaced, the binder for the widening will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition, Ndesign, and thickness specified. The surface and binder used to resurface the entire pavement will be paid for according to the paragraphs above for resurfacing projects.

**SURFACE TESTING OF PAVEMENTS (BDE)**

Effective: April 1, 2002

Revised: August 1, 2005

**Bituminous Concrete Overlays**

Revise Article 406.03(k) of the Standard Specifications to read:

“(k) Pavement Surface Test Equipment ..... 1101.10”

Revise Article 406.21 of the Standard Specifications to read:

**“406.21 Surface Tests.** The finished surface of the pavement shall be tested for smoothness within three days of paving. Testing shall be performed in the presence of the Engineer.

Prior to testing, a copy of the approval letter and recorded settings from the Profile Equipment Verification Program shall be submitted to the Engineer; and all objects and debris shall be removed from the pavement.

(a) Test Sections/Equipment.

- (1) High-Speed Mainline Pavement. High-speed mainline pavement shall consist of pavements, ramps and loops with a posted speed greater than 75 km/hr (45 mph). These sections shall be tested using a California Profilograph or an approved equivalent.
- (2) Low-Speed Mainline Pavement. Low-speed mainline pavement shall consist of pavements, ramps and loops with a posted speed of 75 km/hr (45 mph) or less. These sections shall be tested using a California Profilograph or an approved equivalent.
- (3) Miscellaneous Pavement. Miscellaneous pavement shall consist of:
  - a. pavement on horizontal curves with a centerline radius of curvature of less than or equal to 300 m (1000 ft) and pavement within the superelevation transition of such curves;

- b. the first or last 4.5 m (15 ft) of a pavement section where the Contractor is not responsible for the adjoining surface;
- c. intersections;
- d. variable width pavements;
- e. side street returns;
- f. crossovers;
- g. connector pavement from mainline pavement expansion joint to the bridge approach pavement;
- h. bridge approach pavement; and
- i. other miscellaneous pavement surfaces (i.e. a turn lane) as determined by the Engineer.

Miscellaneous pavement shall be tested using a 5 m (16 ft) straightedge set to a 10 mm (3/8 in.) tolerance.

(b) Lots/Sublots. Mainline pavement test sections will be divided into lots and sublots.

- (1) Lots. A lot will be defined as a continuous strip of pavement 1600 m (1 mile) long and one lane wide. When the length of a continuous strip of pavement is less than 1600 m (1 mile), that pavement will be included in an adjacent lot. Structures will be omitted when measuring pavement length.
- (2) Sublots. Lots will be divided into 160 m (0.1 mile) sublots. A partial subplot resulting from an interruption in the pavement will be subject to the same evaluation as a whole subplot.

(c) Testing Procedure. One wheel track shall be tested per lane. Testing shall be performed 1 m (3 ft) from and parallel to the edge of the lane away from traffic. A guide shall be used to maintain the proper distance.

The profile trace generated shall have stationing indicated every 150 m (500 ft) at a minimum. Both ends of the profile trace shall be labeled with the following information: contract number, beginning and ending stationing, which direction is up on the trace, which direction the profilograph was pushed, and the profilograph operator name(s). The top portion of the Department supplied form, "Profilograph Report of Pavement Smoothness" shall be completed and secured around the trace roll.

Although surface testing of intermediate lifts will not be required, they may be performed at the Contractor's option. When this option is chosen, the testing shall be performed and the profile traces shall be generated as described above.



The Engineer may perform his/her own testing at any time for monitoring and comparison purposes.

- (d) Trace Reduction and Bump Locating Procedure. All traces shall be reduced. Traces produced by a mechanical recorder shall be reduced using an electronic scanner and computer software. This software shall calculate the profile index of each subplot in mm/km (in./mile) and indicate any high points (bumps) in excess of 8 mm (0.30 in.) with a line intersecting the profile on the printout. Computerized recorders shall provide the same information.

The profile index of each track, average profile index of each subplot, average profile index of the lot and locations of bumps shall be recorded on the form.

All traces and reports shall be provided to the Engineer for the project file. Traces from either a computerized profilograph or analysis software used with a manual profilograph shall display the settings used for the data reduction. The Engineer will compare these settings with the settings used during verification testing. If the settings do not match, the results will be rejected and the section shall be retested/reanalyzed with the appropriate settings.

The Engineer will use the results of the testing to evaluate paving methods and equipment. If the average profile index of a lot exceeds 635 mm/km (40.0 in./mile) for high-speed mainline pavement or 1025 mm/km (65.0 in./mile) for low-speed mainline pavement, the paving operation will be suspended until corrective action is taken by the Contractor.

- (e) Corrective Work. All bumps in excess of 8 mm (0.30 in.) in a length of 8 m (25 ft) or less shall be corrected. If the bump is greater than 13 mm (0.50 in.), the pavement shall be removed and replaced to the satisfaction of the Engineer at the Contractor's expense. The minimum length of pavement to be removed shall be 900 mm (3 ft).

- (1) High-Speed Mainline Pavement. Any subplot having a profile index within the range of, greater than 475 (30.0) to 635 (40.0) mm/km (in./mile) including bumps, shall be corrected to reduce the profile index to 475 mm/km (30.0 in./mile) or less on each trace. Any subplot having a profile index greater than 635 mm/km (40.0 in./mile) including bumps, shall be corrected to reduce the profile index to 475 mm/km (30.0 in./mile) or less on each trace, or replaced at the Contractor's option.

- (2) Low-Speed Mainline Pavement. Any subplot having a profile index within the range of, greater than 710 (45.0) to 1025 (65.0) mm/km (in./mile) including bumps, shall be corrected to reduce the profile index to 710 mm/km (45.0 in./mile) or less on each trace. Any subplot having a profile index greater than 1025 mm/km (65.0 in./mile) including bumps, shall be corrected to reduce the profile index to 710 mm/km (45.0 in./mile) or less on each trace, or replaced at the Contractor's option.
- (3) Miscellaneous Pavement. Surface variations which exceed the 10 mm (3/8 in.) tolerance will be marked by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed using either an approved grinding device consisting of multiple saws or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance, with the beginning and ending of the corrected area squared normal to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the subplot(s) shall be retested. The Contractor shall furnish the profilograph tracing(s) and the completed form(s) to the Engineer within two working days after corrections are made. If the profile index and/or bumps still do not meet the requirements, additional corrective work shall be performed.

Corrective work shall be at the Contractor's expense.

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

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

SMOOTHNESS ASSESSMENT SCHEDULE (Bituminous Concrete Overlays)		
High-Speed Mainline Pavement Average Profile Index mm/km (in./mile)	Low-Speed Mainline Pavement Average Profile Index mm/km (in./mile)	Assessment per subplot
95 (6.0) or less	240 (15.0) or less	+\$150.00
>95 (6.0) to 160 (10.0)	>240 (15.0) to 400 (25.0)	+\$80.00
>160 (10.0) to 475 (30.0)	>400 (25.0) to 710 (45.0)	+\$0.00
>475 (30.0) to 635 (40.0)	>710 (45.0) to 1025 (65.0)	+\$0.00
Greater than 635 (40.0)	Greater than 1025 (65.0)	-\$300.00

Smoothness assessments will not be applied to miscellaneous pavement sections.”

**Bituminous Concrete Pavement (Full-Depth)**

Revise Article 407.09 of the Standard Specifications to read:

“**407.09 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 406.21 except as follows:

Two wheel tracks shall be tested per lane. Testing shall be performed 1 m (3 ft) from and parallel to each lane edge.”

SMOOTHNESS ASSESSMENT SCHEDULE (Full-Depth Bituminous)		
High-Speed Mainline Pavement Average Profile Index mm/km (in./mile)	Low-Speed Mainline Pavement Average Profile Index mm/km (in./mile)	Assessment per subplot
95 (6.0) or less		+\$800.00
>95 (6.0) to 175 (11.0)	240 (15.0) or less	+\$550.00
>175 (11.0) to 270 (17.0)	>240 (15.0) to 400 (25.0)	+\$350.00
>270 (17.0) to 475 (30.0)	>400 (25.0) to 710 (45.0)	+\$0.00
>475 (30.0) to 635 (40.0)	>710 (45.0) to 1025 (65.0)	+\$0.00
Greater than 635 (40.0)	Greater than 1025 (65.0)	-\$500.00

Delete the fourth paragraph of Article 407.13 of the Standard Specifications.

**Portland Cement Concrete Pavement**

Revise Article 420.12 of the Standard Specifications to read:

**“420.12 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 406.21 except as follows:

The finished surface of the pavement shall be tested for smoothness once the pavement has attained a flexural strength of 3,800 kPa (550 psi) or a compressive strength of 20,700 kPa (3,000 psi).

Two wheel tracks shall be tested per lane. Testing shall be performed 1 m (3 ft) from and parallel to each lane edge.

Membrane curing damaged during testing shall be repaired as directed by the Engineer at the Contractor’s expense.

No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to ground areas according to Article 420.21 at the Contractor’s expense.”

For pavement that is corrected by removal and replacement, the minimum length to be removed shall meet the requirements of either Class A or Class B patching.

SMOOTHNESS ASSESSMENT SCHEDULE (PCC)		
High-Speed Mainline Pavement Average Profile Index mm/km (in./mile)	Low-Speed Mainline Pavement Average Profile Index mm/km (in./mile)	Assessment per subplot
95 (6.0) or less		+\$1200.00
>95 (6.0) to 175 (11.0)	240 (15.0) or less	+\$950.00
>175 (11.0) to 270 (17.0)	>240 (15.0) to 400 (25.0)	+\$600.00
>270 (17.0) to 475 (30.0)	>400 (25.0) to 710 (45.0)	+\$0.00
>475 (30.0) to 635 (40.0)	>710 (45.0) to 1025 (65.0)	+\$0.00
Greater than 635 (40.0)	Greater than 1025 (65.0)	-\$750.00

Delete the sixth paragraph of Article 420.23 of the Standard Specifications.

## Testing Equipment

Revise Article 1101.10 of the Standard Specifications to read:

**“1101.10 Pavement Surface Test Equipment.** Required surface testing and analysis equipment and their jobsite transportation shall be provided by the Contractor.

- (a) 5 m (16 ft) Straightedge. The 5 m (16 ft) straightedge shall consist of a metal I-beam mounted between two wheels spaced 5 m (16 ft) between the axles. Scratcher bolts which can be easily and accurately adjusted, shall be set at the 1/4, 1/2, and 3/4 points between the axles. A handle suitable for pushing and guiding shall be attached to the straightedge. The straightedge shall meet the approval of the Engineer.
- (b) California Profilograph. The California Profilograph or approved equivalent shall consist of a frame 8 m (25 ft) in length supported upon multiple wheels at either end. The profile shall be recorded from the vertical movement of a wheel attached to the frame at mid point. The profilograph shall have a decal displayed to prove it has passed the Profile Equipment Verification Program administered by the Department.

All traces from pavement sections tested with a California Profilograph or approved equivalent shall be recorded on paper with scales of 300:1 longitudinally and 1:1 vertically. Data filters for an automated California Profilograph shall be set according to the parameters outlined in California Test 526, except the blanking band shall be set to 0.0 mm (0.00 in.).

- (1) Calibration. The Contractor shall demonstrate to the Engineer that the testing equipment has proper tire pressure inflation, trueness of tire travel, and is calibrated for vertical displacement and horizontal distance. This calibration shall consist of the following:
  - a. A 150 to 300 m (500 to 1000 ft) long calibration test section shall be located on the project. This test section should be relatively straight and flat. The profilograph shall be calibrated for longitudinal distance on this test section to the satisfaction of the Engineer.

- b. Longitudinal calibration consists of pushing, at walking speed (approximately 5 km/hr (3 mph)), the profilograph over the pre-measured test section and determining the chart scale factor. To calculate the chart scale factor, divide the pre-measured test distance, in millimeters (inches), by the length of the profile trace from this test section, in millimeters (inches). This factor should be  $300 \pm 0.5$ . If the profilograph produces charts with a different scale factor, adjustment of the profilograph shall be made to bring the scale factor to the tolerance specified above.
- c. Vertical calibration consists of placing the center recording wheel of the profilograph on a base plate and recording the base elevation. Two plates, 13 mm (0.5 in.) thick each, are added under the center wheel, one at a time, and the change in elevation noted. The two plates are removed, one at a time, and the change in elevation noted. Each step in the process shall show a change in height of  $13 \text{ mm} \pm 1.0 \text{ mm}$  ( $0.5 \text{ in.} \pm 0.01 \text{ in.}$ ). If the profilograph produces results not conforming to the above limits, it shall be adjusted to the tolerance specified.
- d. The automatic trace reduction capability of a machine so equipped shall be checked by comparing the machine's results to the results obtained through manual trace reduction using California Test 526 with a 0.0 mm (0.00 in.) blanking band. The comparison shall be made with the trace obtained on the pre-measured test section. The results of the comparison shall not differ by more than 30 mm/km (2.0 in./mile).
- e. All calibration traces and calculations shall be submitted to the Engineer for the project file.

The Engineer may retest the pavement at any time to verify the accuracy of the equipment.

- (2) Trace Analysis. The Contractor shall reduce/evaluate these traces using a 0.0 mm (0.00 in.) blanking band and determine a profile index in mm/km (in./mile) for each section of finished pavement surface. If the Contractor's profilograph is equipped with a computerized recorder, the trace produced will be evaluated without further reduction. If the profilograph has a mechanical recorder, the Contractor shall provide an electronic scanner, a computer, and software to reduce the trace. All analysis equipment (electronic scanner, computerized recorder, etc.) shall be able to accept 0.0 mm (0.00 in.) for the blanking band."

**TEMPORARY CONCRETE BARRIER (BDE)**

Effective: October 1, 2002

Revised: November 1, 2003

Revise Section 704 of the Standard Specifications to read:

**“SECTION 704. TEMPORARY CONCRETE BARRIER**

**704.01 Description.** This work shall consist of furnishing, placing, maintaining, relocating and removing precast concrete barrier at temporary locations as shown on the plans or as directed by the Engineer.

**704.02 Materials.** Materials shall meet the requirements of the following Articles of Section 1000 - Materials:

Item	Article/Section
(a) Portland Cement Concrete.....	1020
(b) Reinforcement Bars (Note 1) .....	1006.10(a)(b)
(c) Connecting Pins and Anchoring Pins.....	1006.09
(d) Connecting Loop Bars (Note 2)	
(e) Rapid Set Mortar (Note 3)	

Note 1. Reinforcement bars shall be Grade 400 (Grade 60).

Note 2. Connecting loop bars shall be smooth bars conforming to the requirements of ASTM A 36.

Note 3. Rapid set materials shall be obtained from the Department's approved list of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs. For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume or a packaged rapid set mortar shall be used. Mixing of the rapid set mortar shall be according to the manufacturer's instructions.

**CONSTRUCTION REQUIREMENTS**

**704.03 General.** Precast concrete barrier produced after October 1, 2002 shall meet National Cooperative Highway Research Program (NCHRP) Report 350, Category 3, Test Level 3 requirements and have the F shape. Precast concrete barrier shall be constructed according to the Bureau of Materials and Physical Research's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products", applicable portions of Sections 504 and 1020, and to the details shown on the plans.

Precast units shall not be removed from the casting beds until a flexural strength of 2,000 kPa (300 psi) or a compressive strength of 10,000 kPa (1400 psi) is attained. When the concrete has attained a compressive strength according to Article 1020.04, and not prior to four days after casting, the units may be loaded, shipped and used.

**704.04 Installation.** F shape barrier units shall be seated on bare, clean pavement or paved shoulder and pinned together in a smooth, continuous line at the exact locations provided by the Engineer. The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six anchoring pins and protected with an impact attenuator as shown on the plans.

F shape and New Jersey shape barrier units shall not be mixed in the same run.

Barrier units or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced by the Contractor at his/her expense. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

The temporary barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

**704.05 New Jersey Shape Barrier.** New Jersey shape barrier produced prior to October 1, 2002 according to earlier Department standards, may be used until January 1, 2008.

Barrier units or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced by the Contractor at his/her expense. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

F shape and New Jersey shape barrier units shall not be mixed in the same run.

The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six dowel bars and protected with an impact attenuator as shown on the plans.

The temporary barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.



**704.06 Method of Measurement.** Temporary concrete barrier will be measured for payment in meters (feet) in place along the centerline of the barrier. When temporary concrete barrier is relocated within the limits of the jobsite, the relocated barrier will be measured for payment in meters (feet) in place along the centerline of the barrier.

**704.07 Basis of Payment.** When the Contractor furnishes the barrier units, this work will be paid for at the contract unit price per meter (foot) for TEMPORARY CONCRETE BARRIER or RELOCATE TEMPORARY CONCRETE BARRIER.

When the Department furnishes the barrier units, this work will be paid for at the contract unit price per meter (foot) for TEMPORARY CONCRETE BARRIER, STATE OWNED or RELOCATE TEMPORARY CONCRETE BARRIER, STATE OWNED.

Impact attenuators will be paid for separately.”

#### **TRAFFIC BARRIER TERMINALS (BDE)**

Effective: January 1, 2003

Revise Article 631.05 of the Standard Specifications to read:

**“631.05 Traffic Barrier Terminal, Type 5 and Type 5A.** The face of the guardrail shall be installed flush with the face of the bridge rail or parapet.”

Revise Article 631.06 of the Standard Specifications to read:

**“631.06 Traffic Barrier Terminal, Type 6.** When attaching the end shoe to concrete constructed with forms and with a thickness of 300 mm (12 in.) or less, the holes may be formed, core drilled or an approved 20 mm (3/4 in.) cast-in-place insert may be used.

When attaching the end shoe to concrete constructed with forms and with a thickness greater than 300 mm (12 in.), an approved M20 (3/4 in.) bolt with an approved expansion device may be used in lieu of formed or core drilled holes.

When attaching the end shoe to concrete constructed by slipforming, the holes shall be core drilled.

The tapered, parapet, wood block out shall be used on all appurtenances with a sloped face.

When no bridge approach curb is present, Type B concrete curb shall be constructed as shown on the plans according to Section 606.”

Revise Article 631.07 of the Standard Specifications to read:

**“631.07 Traffic Barrier Terminal, Type 6B.** Attachment of the end shoe to concrete shall be according to Article 631.06 except the tapered, parapet, wood block out will not be required.”

Delete the third and fourth paragraphs of Article 631.11 of the Standard Specifications.

Add the following paragraph to the end of Article 631.11 of the Standard Specifications:

“Construction of the Type B concrete curb for TRAFFIC BARRIER TERMINAL, TYPE 6 will be paid for according to Article 606.14.”

### **TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE)**

Effective: April 1, 1992

Revised: January 1, 2005

To ensure a prompt response to incidents involving the integrity of work zone traffic control, the Contractor shall provide a telephone number where a responsible individual can be contacted 24 hours-a-day.

When the Engineer is notified, or determines a traffic control deficiency exists, he/she 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 12 hours based upon the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge.

A deficiency may be any lack of repair, maintenance, or non-compliance with the traffic control plan. A deficiency may also be applied to situations where corrective action is not an option such as the use of non-certified flaggers for short term operations; working with lane closures beyond the time allowed in the contract; or failure to perform required contract obligations such as traffic control surveillance.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The daily monetary deduction will be either \$1,000 or 0.05 percent of the awarded contract value, whichever is greater. For those deficiencies where corrective action was not an option this monetary deduction will be immediate.

In addition, if the Contractor fails to respond, the Engineer may correct the deficiency and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities.

**TRUCK BED RELEASE AGENT (BDE)**

Effective: April 1, 2004

Add the following sentence after the third sentence of the first paragraph of Article 406.14 of the Standard Specifications.

“In addition to the release agent, the Contractor may use a light scatter of manufactured sand (FA 20 or FA 21) evenly distributed over the bed of the vehicle.”

80123

**VARIABLY SPACED TINING (BDE)**

Effective: August 1, 2005

Revise the first sentence of the third paragraph of Article 420.11(e)(1) of the Standard Specifications to read:

“The metal comb shall consist of a single line of tempered spring steel tines variably spaced as shown in the table below and securely mounted in a suitable head.”

Replace the sixth sentence of the third paragraph of Article 420.11(e)(1) of the Standard Specifications to read:

“The tining device shall be operated so as to produce a pattern of grooves, 3 to 5 mm (1/8 in. to 3/16 in.) deep and 2.5 to 3.2 mm (1/10 in. to 1/8 in.) wide across the pavement. The tining device shall be operated at a 1:6 skew across the pavement for facilities with a posted speed limit of 55 mph or greater. The tining pattern shall not overlap or leave gaps between successive passes.”

Add the following table after the third paragraph of Article 420.11(e)(1) of the Standard Specifications:

Center to Center Spacings of Metal Comb Tines				
mm (in.) (read spacings left to right)				
34 (1 5/16)	36 (1 7/16)	47 (1 7/8)	54 (2 1/8)	48 (1 7/8)
43 (1 11/16)	32 (1 1/4)	31 (1 1/4)	27 (1 1/16)	36 (1 7/16)
29 (1 1/8)	46 (1 13/16)	21 (13/16)	43 (1 11/16)	23 (7/8)
42 (1 5/8)	52 (2 1/16)	24 (15/16)	18 (11/16)	28 (1 1/8)
40 (1 9/16)	34 (1 5/16)	27 (1 1/16)	26 (1)	25 (1)
27 (1 1/16)	20 (13/16)	37 (1 7/16)	38 (1 1/2)	52 (2 1/16)
51 (2)	45 (1 3/4)	37 (1 7/16)	43 (1 11/16)	53 (2 1/16)
27 (1 1/16)	37 (1 7/16)	42 (1 5/8)	41 (1 5/8)	29 (1 1/8)
43 (1 11/16)	45 (1 3/4)	44 (1 3/4)	30 (1 3/16)	37 (1 7/16)
33 (1 5/16)	40 (1 9/16)	28 (1 1/8)	31 (1 1/4)	50 (1 15/16)
34 (1 5/16)	45 (1 3/4)	20 (13/16)	45 (1 3/4)	50 (1 15/16)
53 (2 1/16)	51 (2)	29 (1 1/8)	25 (1)	18 (11/16)
53 (2 1/16)	18 (11/16)	38 (1 1/2)	51 (2)	40 (1 9/16)
17 (11/16)	49 (1 15/16)	50 (1 15/16)	39 (1 9/16)	51 (2)
36 (1 7/16)	36 (1 7/16)	38 (1 1/2)	46 (1 13/16)	29 (1 1/8)
38 (1 1/2)	50 (1 15/16)	24 (15/16)	33 (1 5/16)	

80149

**WEIGHT CONTROL DEFICIENCY DEDUCTION**

Effective: April 1, 2001

Revised: August 1, 2002

The Contractor shall provide accurate weights of materials delivered to the contract for incorporation into the work (whether temporary or permanent) and for which the basis of payment is by weight. These weights shall be documented on delivery tickets which shall identify the source of the material, type of material, the date and time the material was loaded, the contract number, the net weight, the tare weight when applicable and the identification of the transporting vehicle. For aggregates, the Contractor shall have the driver of the vehicle furnish or establish an acceptable alternative to provide the contract number and a copy of the material order to the source for each load. The source is defined as that facility that produces the final material product that is to be incorporated into the contract pay items.

The Department will conduct random, independent vehicle weight checks for material sources according to the procedures outlined in the Documentation Section Policy Statement of the Department's Construction Manual and hereby incorporated by reference. The results of the independent weight checks shall be applicable to all contracts containing this Special Provision. Should the vehicle weight check for a source result in the net weight of material on the vehicle exceeding the net weight of material shown on the delivery ticket by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. No adjustment in pay quantity will be made. Should the vehicle weight check for a source result in the net weight of material shown on the delivery ticket exceeding the net weight of material on the vehicle by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. The Engineer will adjust the net weight shown on the delivery ticket to the checked delivered net weight as determined by the independent vehicle weight check.

The Engineer will also adjust the method of measurement for all contracts for subsequent deliveries of all materials from the source based on the independent weight check. The net weight of all materials delivered to all contracts containing this Special Provision from this source, for which the basis of payment is by weight, will be adjusted by applying a correction factor "A" as determined by the following formula:

$$A = 1.0 - \left( \frac{B - C}{B} \right); \text{ Where } A \leq 1.0; \left( \frac{B - C}{C} \right) > 0.50\% \text{ (0.70\% for aggregates)}$$

Where A = Adjustment factor

B = Net weight shown on delivery ticket

C = Net weight determined from independent weight check

The adjustment factor will be applied as follows:

$$\text{Adjusted Net Weight} = A \times \text{Delivery Ticket Net Weight}$$

The adjustment factor will be imposed until the cause of the deficient weight is identified and corrected by the Contractor to the satisfaction of the Engineer. If the cause of the deficient weight is not identified and corrected within seven (7) calendar days, the source shall cease delivery of all materials to all contracts containing this Special Provision for which the basis of payment is by weight.

Should the Contractor elect to challenge the results of the independent weight check, the Engineer will continue to document the weight of material for which the adjustment factor would be applied. However, provided the Contractor furnishes the Engineer with written documentation that the source scale has been calibrated within seven (7) calendar days after the date of the independent weight check, adjustments in the weight of material paid for will not be applied unless the scale calibration demonstrates that the source scale was not within the specified Department of Agriculture tolerance.

At the Contractor's option, the vehicle may be weighed on a second independent Department of Agriculture certified scale to verify the accuracy of the scale used for the independent weight check.

80048

### **WORK ZONE PUBLIC INFORMATION SIGNS (BDE)**

Effective: September 1, 2002

Revised: January 1, 2005

Description. This work shall consist of furnishing, erecting, maintaining, and removing work zone public information signs.

Camera-ready artwork for the signs will be provided to sign manufacturing companies upon request by contacting the Central Bureau of Operations at 217-782-2076. The sign number is W21-1116-6048.

Freeways/Expressways. These signs are required on freeways and expressways. The signs shall be erected as shown on Highway Standard 701400 and according to Article 702.05(a) of the Standard Specifications.

All Other Routes. These signs shall be used on other routes when specified on the plans. They shall be erected in pairs midway between the first and second warning signs.

Basis of Payment. This work will not be paid for separately but shall be considered as included in the cost of the Standard.

80090

## **WORK ZONE SPEED LIMIT SIGNS (BDE)**

Effective: April 2, 2004

Revised: April 15, 2004

Delete Article 702.05(c).

Revise Article 702.05(d) to read:

“(d) Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 150 m (500 ft) beyond the last entrance ramp for each interchange. The individual signs that make up an assembly may be combined on a single panel. The sheeting for the signs shall be reflective and conform to the requirements of Article 1084.02.

All permanent “SPEED LIMIT” signs located within the work zone shall be removed or covered. This work shall be coordinated with the lane closure(s) by promptly establishing a reduced posted speed zone when the lane closure(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closure(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic; at all other times, the signs shall be promptly removed or covered. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall.

80125

## **WORK ZONE TRAFFIC CONTROL DEVICES (BDE)**

Effective: January 1, 2003

Revised: November 1, 2004

Add the following to Article 702.01 of the Standard Specifications:

“All devices and combinations of devices shall meet the requirements of the National Cooperative Highway Research Program (NCHRP) Report 350 for their respective categories. The categories are as follows:

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, flexible delineators and plastic drums with no attachments. Category 1 devices shall be crash tested and accepted or may be self-certified by the manufacturer.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include drums and vertical panels with lights, barricades and portable sign supports. Category 2 devices shall be crash tested and accepted for Test Level 3.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions, truck mounted attenuators and other devices not meeting the definitions of Category 1 or 2. Category 3 devices shall be crash tested and accepted for either Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals and area lighting supports. Currently, there is no implementation date set for this category and it is exempt from the NCHRP 350 compliance requirement.

The Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and an FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letters shall state the device meets the NCHRP 350 requirements for its respective category and test level, and shall include a detail drawing of the device."

Delete the third, fourth and fifth paragraphs of Article 702.03(b) of the Standard Specifications.

Delete the third sentence of the first paragraph of Article 702.03(c) of the Standard Specifications.

Revise the first sentence of the first paragraph of Article 702.03(e) of the Standard Specifications to read:

"Drums shall be nonmetallic and have alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes."

Add the following to Article 702.03 of the Standard Specifications:

"(h) Vertical Barricades. Vertical barricades may be used in lieu of cones, drums or Type II barricades to channelize traffic."



Delete the fourth paragraph of Article 702.05(a) of the Standard Specifications.

Revise the sixth paragraph of Article 702.05(a) of the Standard Specifications to read:

“When the work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, a temporary sign stand may be used to support a sign at 1.2 m (5 ft) minimum where posts are impractical. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 30 m (100 ft) to avoid obstacles, hazards or to improve sight distance, when approved by the Engineer. “ROAD CONSTRUCTION AHEAD” signs will also be required on side roads located within the limits of the mainline “ROAD CONSTRUCTION AHEAD” signs.”

Delete all references to “Type 1A barricades” and “wing barricades” throughout Section 702 of the Standard Specifications.

80097

## **STEEL COST ADJUSTMENT (BDE)**

Effective: April 2, 2004

Revised: July 1, 2004

Description. At the bidder’s option, a steel cost adjustment will be made to provide additional compensation to the Contractor or a credit to the Department for fluctuations in steel prices. The bidder must indicate on the attached form whether or not steel cost adjustments will be part of this contract. This attached form shall be submitted with the bid. Failure to submit the form shall make this contract exempt of steel cost adjustments.

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), frames and grates, and other miscellaneous items will be subject to a steel cost adjustment when the pay item 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) Evidence that increased or decreased steel costs have been passed on to the Contractor.
- (b) The dates and quantity of steel, in kg (lb), shipped from the mill to the fabricator.
- (c) The quantity of steel, in kg (lb), 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:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars

Q = quantity of steel incorporated into the work, in kg (lb)

D = price factor, in dollars per kg (lb)

$$D = CBP_M - CBP_L$$

Where:  $CBP_M$  = The average of the Consumer Buying Price indices for Shredded Auto Scrap (Chicago) and No. 1 Heavy Melt (Chicago) as published by the American Metal Market (AMM) for the day the steel is shipped from the mill. The indices will be converted from dollars per ton to dollars per kg (lb).

$CBP_L$  = The average of the Consumer Buying Price indices for Shredded Auto Scrap (Chicago) and No. 1 Heavy Melt (Chicago) as published by the AMM for the day the contract is let. The indices will be converted from dollars per ton to dollars per kg (lb).

The unit masses (weights) 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  $CBP_M$  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  $CBP_L$  and  $CBP_M$  in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(CBP_L - CBP_M) \div CBP_L\} \times 100$$

FAI Route 94/90 (Dan Ryan Expressway)  
31st Street to 71st Street (SB Express Lanes)  
Section (1818, ETC, 2324.6-1P)R-9  
Cook County

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the steel items 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.

**Attachment**

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

FAI Route 94/90 (Dan Ryan Expressway)  
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**RETURN WITH BID**

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
STEEL COST ADJUSTMENT**

The bidder shall submit this form with his/her bid. Failure to submit the form shall make this contract exempt of steel 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 plans?

Yes  No

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

80127

Storm Water Pollution Prevention Plan



Storm Water Pollution Prevention Plan

Route I-90/94 Dan Ryan Expressway Marked Dan Ryan Expressway  
I-57 at Illinois Route 1 (Halsted St) &  
I-90 at MLK to 31st Street

Section See individual contract Project No. Various Contract Numbers -  
Refer to Attachment

County Cook, IL

This plan has been prepared to comply with the provisions of the MSY-Phase II NPDES Permit Number 1LR40, issued by the Illinois Environmental Protection Agency for storm water discharges.

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.

John P. Kim  
Signature  
District Engineer  
Title

August 5, 2008  
Date

**1 Site Description**

- a. The following is a description of the construction activity which is the subject of this plan (use additional pages, as necessary):

The project is located at Interstate 94 (the Dan Ryan Expressway) from the I-57 interchange to Illinois 1 (Halsted Street) to the west and Martin Luther King (MLK) Drive to the east, and continues in a northerly direction to 31<sup>st</sup> Street.

**Construction Descriptions**

The Dan Ryan Expressway project consists of roadway improvements including added lanes, mainline and shoulder reconstruction, construction of retaining walls, new collector-distributor roadways, new and relocated exit and entrance ramps, lighting, drainage, signing, and surveillance improvements.

The Dan Ryan Expressway reconstruction project was designed in three segments in Phase I. The three segments are described from south to north.

The segment from 95<sup>th</sup> to 67<sup>th</sup> Streets (U.S. Route 20 / 45), the improvement includes reconstruction of the eight traffic lanes of the existing Dan Ryan Expressway pavement, the addition of a through travel lane in each direction, and modifications to entrance and exit ramps. The improvement involves the addition of a through travel lane along both northbound and southbound Dan Ryan onto Interstate 57 to the interchange with Halsted Street (Illinois Route 1). There are intersection improvements at 79<sup>th</sup> Street.

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The segment from 67th to 47th Street includes reconstruction of the existing northbound and southbound express lanes (four lanes in each direction) and local lanes (two lanes in each direction). The improvement will also provide for an additional through travel lane in each direction to the local traffic lanes, and modifications to all entrance and exit ramps. There are intersection improvements at 67th Street. Frontage roads will be reconstructed both northbound and southbound from 63rd to 47th Streets. Additional work will involve bridge construction and reconfiguration of the Chicago Skyway / Dan Ryan Expressway interchange to provide an additional entrance ramp from the Chicago Skyway to connect directly to the northbound Dan Ryan Expressway express lanes.

The scope of the roadway work between 47th and 31st Streets will include reconstruction of the existing northbound and southbound express lanes (four lanes in each direction) and local lanes (three lanes in each direction) to the Dan Ryan Expressway pavement, and the reconstruction and/or reconfiguration of entrance and exit ramps. The Root Street structure (41st Street) will be removed.

The drainage work consists of removing or abandoning the existing collector storm sewer system and surface water collection system and constructing a new collector storm sewer and surface water collection system. The existing main drain will remain in place and remain functional, with new connections for the proposed storm sewer system. New collector sewers to drain the area directly tributary to the Dan Ryan Expressway (CTA tracks, local lanes, and adjacent ramps and grass areas), and overflows from offsite tributary areas (frontage roads) are planned. Separate collector sewers are required to drain the northbound and southbound lanes of the Dan Ryan Expressway. These proposed collector sewers are to be designed to convey the 50-year storm event.

The work will include the construction of new retaining walls and the rehabilitation, and/or modifications of several existing retaining walls and any roadway and traffic signal improvements required at cross streets and alternate routes.

In addition, other improvements include:

- A new highway lighting system (110 foot towers with lights on 11-foot mounting rings).
- New expressway signing (provides four new and upgrade three changeable message signs).
- Replacement of traffic surveillance equipment with upgraded technology.
- Closed circuit television for traffic conditions and crash incident monitoring.
- Accident investigation sites.
- Other incidental work as required completing the reconstruction of this segment of the expressway to AASHTO and IDOT criteria.

The improvement will also consolidate several points of access and improve the unsafe weaving conditions created by the existing substandard weaving distances. Currently, ramps are spaced evenly at one-half mile increments, resulting in weaving distances in the range of 300 feet. This is a major safety concern and suspected cause for the high incidence of sideswipe collisions in the ramp influence areas. The proposed access consolidation plan improves many of the mainline weaving movements while minimally influencing the local access to the Dan Ryan Expressway through the addition of collector-distributor roadways and both entrance and exit ramp removals. The presence of parallel city street frontage roads facilitates local access without substantive changes in through and local travel patterns. The proposals for ramp closure are: 226

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- Northbound (NB) exit and southbound (SB) entrance at 76th Street (2 ramps)
- Northbound (NB) and southbound (SB) exits and entrances at 59th Street (4 ramps)
- Northbound (NB) and southbound (SB) exits and entrances at 51st Street (4 ramps)
- Northbound (NB) exit and southbound (SB) entrance at 43rd Street (2 ramps)

Capacity analyses indicate unsatisfactory conditions at the intersections of 55th Street (Garfield Boulevard) / Wells Street and 55th Street (Garfield Boulevard) / Wentworth Avenue. The improvements necessary to make this interchange operate effectively require right-of-way acquisition from three separate parcels. The parcels on the southwest quadrant of 55th Street (Garfield Boulevard) / Wells Street is occupied by a "Mobil Service Station" in which a portion of each of the two parcels shall be acquired to construct an eastbound to southbound right turn lane. In addition, dual right turn lanes are proposed for the northbound to eastbound movement at the intersection of 55th Street (Garfield Boulevard) / Wentworth Avenue. These right turn lanes require securing property, the portion of the parcel that is currently vacant.

To construct the proposed two-lane, left-hand exit to the Chicago Skyway from the southbound lanes on the Dan Ryan Expressway, Wells Street needs to be relocated from 64th Street to 65th Street. The improvement requires reconstruction of an 18 foot high retaining wall adjacent to the mainline and the full replacement of the frontage road (Wells Street) pavement. The realignment shifts the centerline of the road approximately 10 feet west. A relocation and reconstruction of the west sidewalk bordering Wells Street does encroach into a parcel currently owned by the Chicago Housing Authority for the "Yale Street Apartment". The corner parcel would facilitate the relocation and reconstruction of the 5 foot sidewalk and modifications to the bituminous parking lot.

The right-of-way uses are summarized in the tabulation below:

Right-of-Way Acquisition	Acres	Number of Parcels
SW Corner of 55 <sup>th</sup> / Wells Street	0.05	6
SE Corner of 55 <sup>th</sup> / Wentworth Avenue	0.10	1
NE Corner of 57 <sup>th</sup> / Wentworth Avenue	0.12	2
SE Corner of 57 <sup>th</sup> / Wentworth Avenue	0.24	1
NE Corner of 59 <sup>th</sup> / Wentworth Avenue	0.007	1
SE Corner of 59 <sup>th</sup> / Wentworth Avenue	0.014	1
NW Corner of 63 <sup>rd</sup> / Wells Street	0.05	1
Along West edge of Wells Street From 65th Street to 64th Street	0.11	1
Temporary Construction Easement	Acres	Number of Parcels
Along west edge of Wells Street From 65 <sup>th</sup> Street to 64 <sup>th</sup> Street	0.07	1

The Total Acquired Right-of-Way (ROW) is 0.691 acres involving eight parcels, with a Temporary Construction Easement (TCE) of 0.07 acres involving one parcel.



### Environmental Descriptions

Special waste for the Dan Ryan project has **HIGH** risk for the occurrence of regulated substances or natural hazards at twelve sites. A Preliminary Environmental Site Assessment (PESA #1106) with stipulations for excavation depths varies for twelve high risk locations. Depth stipulations can be met at Sites: 808-10A, 1106-17B, 1106-25B, 1106-44A, and 1106-51. A request for Preliminary Site Investigation (PSI) will be required for Sites: 1106-2B, 1106-4A, 1106-6A, and 1106-9, 1106-33B, 1106-47, and 1106-52.

Besides special waste, there are no ecologically sensitive areas in the Dan Ryan project area. The Environmental Survey Request Form (ESRF) on 10/15/99 requested only biological and special waste survey because all of the ground had been previously disturbed and no new right-of-way is to be involved with areas not previously occupied, excavated, or disturbed. The project, as described on the ESRF, does not require biological or wetland surveys. The Illinois Department of Natural Resources (IDNR) Natural Heritage Database has no records of listed species, natural areas or nature preserves within the Dan Ryan project corridor (IDNR Agency Action Report dated September 20, 1999). By agreement, no coordination with the Illinois Department of Natural Resources (IDNR) and the U.S. Fish and Wildlife Service (USFWS) are necessary.

No streams or rivers are involved with this project. There is no water resources in the area involved with the project. A closed drainage system for storm water and urban roadway cross section, including pavement and shoulder, will continue.

The project will result in the disturbance of 0.4 or more hectares (1.0 acre). Permit coverage for the project is secured either under the IEPA Phase II General Permit for Storm-water Discharges (NPDES Permit No. ILR40) or under an individual NPDES permit. Requirements applicable for a permit will be followed, including the preparation of a Storm-water Pollution Prevention Plan. The plan shall identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the construction site. The plan shall describe and ensure the implementation of practices that will reduce the pollutants in discharges associated with construction site activity and assure compliance with terms of the permits.

Although there may be a remote possibility (not likely) of a potable water well within 200 feet (60 meters) of the centerline, this threshold is only relevant for routes and sources of groundwater pollution. Since this project will not introduce any new routes of groundwater pollution (dry wells, "French drains", or borrow pits) or sources (bulk road oil or deicing storage facilities), then there will be no violation of the wellhead setback requirements.

According to the National Flood Insurance Rate Maps (FIRM), there are no flood plains involved within this project limits.

From field inspection by project team environmental and wetland specialists, and their review of the available and published National Wetlands Inventory (NWI) maps, and the most recent available aerial photography of the area, determined wetlands are not involved. The project is within the existing rights-of-way, and no wetlands are located within or adjacent to the required parcels, which include: west edge of Wells Street from 65th to 64th Street; 63rd Street and South Wells Street, 59th Street and Wentworth Avenue; 57th Street and 226 Wentworth Avenue; 55th Street and South Wentworth Avenue, and 55th Street and South Wells Street.

There is no use or proposed use of protected Section 4(f), Section 6f lands, or lands that have OSLAD funds involved with their purchase and/or development.

- b. The following is a description of the intended sequence of major activities for the reconstruction of the Dan Ryan Expressway. The construction year, contract number, description, duration of construction, and highlights of work to be completed follow.

**Contract # – Name/Description**  
**Contract Duration**  
▪ Major Activities

**Construction Year 2003**

**62573 – Shoulder Repair and Median Cross-Over**  
August 18 – October 31, 2003  
▪ Reconstruction of the 65th to 47th Street local lane inside shoulder

**62591 – Storm Sewer Jacking**  
November 15, 2003 – June 4, 2004  
▪ Storm sewer jacking from 95th to 67th Streets

**Construction Year 2004 to 2005**

**62594 – 83rd to 79th Street C-D System and Ramps**  
March 1 – October 31, 2004  
▪ Reconstruction and reconfiguration of the collector-distributor (C-D) ramps between 83rd and 79th Streets  
▪ Replacement of the storm sewer  
▪ Retaining wall construction

**62691 – Reconstruct Watermain Crossing under the Dan Ryan from 32nd Street to 63rd Street**  
May 3, 2004 – June 20, 2005

**62590 – 71st to 67th Street C-D System and Ramps**  
June 21, 2004 – August 15, 2005  
▪ Reconstruction of the collector-distributor (C-D) ramps between 71st and 67th Street  
▪ Improvements to 67th Street / State Street intersection  
▪ Retaining wall construction  
▪ Reconstruction of the 67th Street bridge

**62587 – Wentworth Avenue Overpass and Wells Street Realignment**  
June 21, 2004 – June 30, 2005  
▪ Reconstruction of Wells Street from 67th to 63rd Street  
▪ Reconstruction of Wentworth Avenue bridge

**62589 – Skyway Interchange Bridges and Local Lanes Wentworth Avenue to 67th Street**  
June 21, 2004 – August 15, 2005  
▪ Dan Ryan / Skyway interchange  
▪ Reconstruction of local lanes from 67th to 63rd Street  
▪ Retaining wall construction

62586 – 57th Street Bridge, Retaining Walls, Ramps and Frontage Roads 63rd to 47th Streets

August 1, 2004 – October 31, 2005

- Reconstruction of the frontage roads, Wells Street and Wentworth Avenue, between 63rd and 47th Street
- Construction of eight (8) new ramps between 63rd and 47th Street
- Construction of the new 57th Street bridge over the Dan Ryan
- Retaining walls

62585 – Reconstruct SB Ramps between 39th and 31st Street and Shoulder Reconstruction

September 13, 2004 – November 30, 2005

- Reconstruction of the SB ramps between 39th and 31st Street

62584 – Reconstruct NB Ramps between 39th and 31st Street and Shoulder Reconstruction

September 13, 2004 – November 30, 2004

- Reconstruction of the NB ramps between 39th and 31st Street

62692 – Reconstruct Watermain Crossings under the Dan Ryan from 75th Street to the I-57 Interchange

September 27, 2004 – July 1, 2005

TBA – Reconstruct I-57 Bridge over WB Cross Connection from I-94 and Tunnel over SB I-94

December 21, 2004 – July 4, 2005

62694 – NB Retaining Walls and Ramps from 71st to I-57 and 71st to 75th Street C-D System

February 28, 2005 – December 30, 2005

62695 – SB Retaining Walls and Ramps from 71st Street to I-57 and 71st to 75th Street C-D System

February 28, 2005 – December 30, 2005

#### Construction Year 2006

62592 – NB Outside Lanes (4, 5, and Shoulder), 71st to I-57 and Miscellaneous Ramps

March 6 – October 27, 2006

- Reconstruction of the local lanes 4, 5, and the outside shoulder for the Dan Ryan I-57 interchange
- Replacement of the storm sewer
- Retaining wall construction

62593 – SB Outside Lanes (4, 5, and Shoulder), 71st to I-57 and Miscellaneous Ramps

March 6 – October 27, 2006

- Reconstruction of the local lanes 4, 5, and the outside shoulder for the Dan Ryan I-57 interchange
- Replacement of the storm sewer
- Retaining wall construction

**62302 – SB Express Lanes 71st to 47th Streets**

March 6 – October 27, 2006

- Reconstruction of the express lanes between 67th and 47th Street
- Construction of lanes 4 & 5 between 71st and 67th Street

**62300 – NB Express Lanes 71st to 31st Streets**

March 6 – October 27, 2006

- Reconstruction of the NB and SB express lanes between 71st to 31st Street

**Construction Year 2007**

**62304 – NB Inside Lanes (1, 2 and 3, shoulder and barrier wall) from 71st Street and the I-57 Interchange and Miscellaneous Ramps**

March – November 2007

- Reconstruction of the NB local lane 3
- Reconstruction of the I-57 interchange
- Replacement of the storm sewer
- Reconstruction of NB Dan Ryan inside Lanes 1 and 2
- Reconstruction of CTA wall

**62305 – SB Inside Lanes (1, 2 and 3, shoulder and barrier wall) from 71st Street and the I-57 Interchange and Miscellaneous Ramps**

March – November 2007

- Reconstruction of the SB local lanes 3
- Reconstruction of the I-57 interchange
- Replacement of the storm sewer
- Reconstruction of SB Dan Ryan inside Lanes 1 and 2
- Reconstruction of CTA wall

**62303 – SB Local Lanes 71st to 31st Streets and Miscellaneous Ramps**

March – November 2007

- Reconstruction of the local lanes between 67th and 47th Street
- Reconstruction of the local lanes 1, 2, and 3 between 71st and 67th Street
- Construction of the WB Skyway ramp to NB Dan Ryan Local

**62301 – NB Local Lanes 71st to 31st Streets and Miscellaneous Ramps**

March 7 – November 2007

- Reconstruction of the NB and SB local lanes between 47th to 31st Street

- c. The total area of the construction site is estimated to be 612 acres.

The total area of the site that it is estimated will be disturbed by excavation, grading or other activities is acres 433.

- d. The estimated runoff coefficients of the various areas of the site after construction activities are completed are contained in the project drainage study, which is hereby incorporated by reference in this plan. Information describing the soils at the site is contained in individual Soils Reports for each construction contract.
- e. The design/project report, hydraulic report, or plan documents, hereby incorporated by reference, contain site map(s) indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of major soil disturbance, the location of major structural and nonstructural 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 directed to a surface water.

- f. The names of receiving water(s) and areal extent of wetland acreage at the site are in the design/project report or plan documents, which are incorporated by reference as a part of this plan.

## 2. Controls

This section of the plan addresses the various controls that will be implemented for each of the major construction activities described in 1.b. above. For each measure discussed, the contractor that will be responsible for its implementation is indicated. Each such contractor has signed the required certification on forms which are attached to, and a part of, this plan:

### a. Erosion and Sediment Controls

- (i) Stabilization 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: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided in 2.a.(i).(A) and 2.b., 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 14 days after the construction activity in that portion of the site has temporarily or permanently ceased on all disturbed portions of the site where construction activity will not occur for a period of 21 or more calendar days.
- (A) Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

#### Description of Stabilization Practices:

1. Temporary Erosion Control Seeding shall be applied in accordance with the Special Provision. Seed mixture will depend on the time of year it is applied. Oats will be applied from January 1 to July 31 and Hard Red Winter Wheat from August 1 to December 31.
2. Short Term Seeding - Seeding Class 2A shall be used to protect bare earth from more than just one or two summer-winter cycles. Due to the length and complexity of this project, it is necessary that short term, final graded slopes be short term seeded as directed by the Engineer.
3. Stone Riprap - Class A4 stone riprap with filter fabric will be used as protection at the discharge end of most storm sewer and culvert end sections to prevent scouring at the end of pipes and to prevent downstream erosion.
4. Temporary Tree Protection - Shall consist of items "temporary fencing" and "tree trunk protection" as directed by the engineer and in accordance with Article 201.05 of the Illinois Department of Transportation's Standard Specifications for Road and Bridge Construction.
5. Permanent Stabilization - All areas disturbed by construction will be stabilized as soon as permitted with permanent seeding following the finished grading, but always within seven days with Temporary Erosion

Control Seeding. Erosion Blankets will be installed over fill slopes, which have been brought to final grade and have been seeded to protect the slopes from rill and gully erosion and allow seeds to germinate properly.

6. Erosion Control Blankets and Mulching - Erosion control blankets will be installed over fill slopes and in high velocity areas that have been brought to final grade and seeded to protect slopes from erosion and allow seeds to germinate. Mulch will be applied in relatively flat areas to prevent further erosion.
- (ii) 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 silt fences, earth dikes, drainage swales, sediment traps, check dams, 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.

Description of Structural Practices:

1. Sediment Control, Stabilized Construction Access - Coarse aggregate overlaying a geotextile fabric will be placed in locations necessary for contractor access. The aggregate surface of the access points will capture soil debris, reducing the amount of soil deposits placed on to the roadway by vehicles leaving the work zones.
2. Inlet Filters - Inlet and Pipe Protection will be provided for storm sewers. These filters will be placed in every inlet, catch basin or manhole with an open lid, which will drain water during at least a 10-year storm event. The Erosion Control Plan will identify the structures requiring Inlet filters.
3. Sediment Control, Silt Fence - A silt fence will be placed adjacent to the areas of construction to intercept waterborne silt and prevent it from leaving the site. These areas are marked on the erosion control plans in each contract.
4. Sediment Control, Temporary Ditch Checks - Rolled excelsior ditch checks will be placed in swales at the rate of one for every 0.3 meters in vertical drop, or as directed by the Engineer, in order to prevent downstream erosion.
5. Sediment Control, Temporary Stream Crossing - Coarse aggregate overlaying a geotextile fabric will be placed in locations necessary for contractor access over water channels. The aggregate surface of the crossing will reduce the amount of soil disturbance in the streams.
6. Sediment Control, Temporary Pipe Slope Drain - This item consists of a pipe with flared end sections, placed daily, along with anchor devices in conjunction with temporary berms that direct runoff down an unstabilized slope.
7. Sediment Control, Dewatering Basins will be provided at wherever the contractor is removing and discharging water from excavated areas and the water is not being routed through a sediment trap or basin.

8. Stone riprap will be provided at several storm and culvert outlets as a measure for erosion and sediment control where needed during and after the project.
9. Bridges will be designed to reduce the potential for scouring.
10. Underdrains will be used to minimize potential erosion caused by surface water flows by reducing the subsurface water which can cause failed pavements, unstable shoulders and other disturbed areas.
11. Covers will be placed on open ends of pipes in trenches.

The structural practices indicated above may not be used in every contract. The Erosion Control Plans included in every contract will indicate which structural practices are required for that contract.

**b. 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.

- (i) Such practices may include: 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 Section 10-300 (Design Considerations) in Chapter 10 (Erosion and Sedimentation Control) of the Illinois Department of Transportation Drainage Manual. If practices other than those discussed in Section 10-300 are selected for implementation or if practices are applied to situations different from those covered in Section 10-300, the technical basis for such decisions will be explained below.**
- (ii) 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).
- (iii) The Department proposes to remove vegetation within the project limits as necessary for construction. The Department proposes to revegetate according to the City of Chicago Landscape Framework Plan.

**c. Other Controls**

- (i) Waste Disposal. No solid materials, including building materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.
- (ii) The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

**d. Approved State or Local Plans**

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, 1995. 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 or site permits or 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 ILR40 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: See Landscape Design and Erosion Control for further details. In addition, Guidance Memorandums #02-14 and #02-22 leading up to the ILR40NPDES Permit Requirements IDOT Strategies of Storm Water Management will be complied with along with Construction Memorandum 02-60.

**3. Maintenance**

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan:

Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or pollution runoff in compliance with environmental law and EPA Water Quality Regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site. The construction field engineer on a weekly basis shall inspect the project to determine that erosion controls efforts are in place and effective and if other control is necessary. Sediment collected during construction by the various temporary erosion systems shall be disposed on the site on a regular basis as directed by the Engineer.

All erosion and sediment control measures will be checked weekly and after each significant rainfall (13 mm (0.5 inch) or greater in a 24 hour period). The following items will be checked:

1. Seeding - all erodable bare earth areas will be temporarily seeded and inspected on a weekly basis to minimize the amount of erodable surface within the contract limits.
2. Silt Filter Fence, all types
3. Erosion Control Blanket
4. Tree Protection
5. Ditch Checks
6. Temporary slope drains
7. Sediment/dewatering basins
8. Stabilized construction entrances

All maintenance of the erosion control systems will be the responsibility of the contractor. All locations where vehicles enter and exit the construction site and all other areas subject to erosion should also be inspected periodically. Inspection of these areas shall be made at least once every seven days and within 24 hours of the end of each 13 mm (0.5 inch) or greater rainfall, or an equivalent snowfall.



#### 4. Inspections

Qualified personnel shall inspect disturbed areas of the construction site, which have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site. 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 inches or greater or equivalent snowfall.

- a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off site sediment tracking.
- b. Based on the results of the inspection, the description of potential pollutant sources identified in section 1 above and pollution prevention measures identified in section 2 above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within 7 calendar days following the inspection.
- c. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this storm water pollution prevention plan, and actions taken in accordance with section 4.b. shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI. G of the general permit.
- d. 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 or Resident Technician shall complete and file an "Incidence of Noncompliance" (ION) report for the identified violation. The Resident Engineer or Resident Technician 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 general permit.

The report of noncompliance 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

#### 5. Non-Storm Water Discharges

Except for flows from fire fighting activities, sources of non-storm water that is combined with storm water discharges associated with the industrial activity addressed in this plan is described below. Appropriate pollution prevention measures, as described below, will be implemented for the non-storm water component(s) of the discharge.

Dewatering activities for footing and pier construction of retaining walls and bridges will be a source of non-storm water discharge during construction. Contractors should discharge dewatering activities to a temporary settling basing surrounded by silt fence.

The cutting of joints in PCC pavements or bridge deck grooving will result in slurry. This slurry shall be contained on the deck/pavement and cleaned up.

An additional source of non-storm water discharge during construction is the slurry from washing out redi-mix concrete trucks. Redi-mix concrete trucks should wash out in designated areas surrounded by silt fence. After all PCC items have been constructed, the dried concrete wash material should be cleaned up and properly disposed of. It will be the contractor's responsibility to secure these designated areas for the duration of their use. The Engineer will approve the locations.

On site maintenance of equipment shall be performed in accordance with environmental law, such as proper storage and no dumping of old engine oil or other fluids on site.

#### Good Housekeeping

1. An effort will be made to store only enough product required to do the job.
2. All materials stored on site will be stored in a neat, orderly manner in their appropriate containers, and if possible, under a roof or other enclosure.
3. Products will be kept in their original containers with the original manufacturer's label.
4. Substances will not be mixed with one another unless recommended by the manufacturer.
5. The site superintendent will inspect daily to ensure proper use and disposal of materials on the site.
6. Whenever possible, all of a product will be used up before disposing of the container.
7. Follow manufacturer's recommended practices for use and disposal.



**Contractor Certification Statement**

This certification statement is a part of the Storm Water Pollution Prevention Plan for the project described below, in accordance with NPDES Permit No. ILR40, issued by the Illinois Environmental Protection Agency on \_\_\_\_\_, 2003.

**Project Information:**

Route	<u>I-90/94 Dan Ryan Expressway</u>	Marked	<u>Dan Ryan Expressway I-57 at Illinois Route 1 (Halsted St) &amp; I-90 at MLK to 31st Street</u>
Section	<u>See individual contract</u>	Project No.	<u>Various Contract Numbers – Refer to Attachment</u>
County	<u>Cook</u>		

I certify under penalty of law that I understand the terms of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR 40) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

<hr/>		<hr/>	
Signature		Date	
<hr/>			
Title			
<hr/>			
Name of Firm			
<hr/>			
Street Address			
<hr/>			
City		State	
<hr/>			
Zip Code			
<hr/>			
Telephone Number			

FAI Route 94/90 (Dan Ryan Expressway)  
 31st Street to 71st Street (SB Express Lanes)  
 Section (1818, ETC, 2324.6-1P)R-9  
 Cook County

Storm Water Pollution Prevention Plan – Attachment

Project Limits: Dan Ryan Expressway I-57 at Illinois Route 1 (Halsted St) & I-90 at MLK to 31st Street

Attachment: Contract Numbers and Description. Note that the contract numbers are listed in numerical order.

IDOT Contract No.	Description
62300	Reconstruct NB Express Lanes from 31st Street to 71st Street
62301	Reconstruct NB Local Lanes from 31st St. to Wentworth Ave. and Misc. Ramps
62302	Reconstruct SB Express Lanes from 31st Street to 71st Street
62303	Reconstruct SB Local Lanes from 31st St. to Wentworth Ave. and Misc. Ramps
62304	Reconstruct NB Inside Lanes (1-3, shoulder and barrier wall) from 71st Street to I-57 Interchange
62305	Reconstruct SB Inside Lanes (1-3, shoulder and barrier wall) from 71st Street to I-57 Interchange
62573	Shoulder Rehabilitation from 47th St. to 71st St.
62584	Reconstruct NB ramps between 31st and 39th Street and Shoulder Rehabilitation
62585	Reconstruct SB ramps between 31st and 39th Street and Shoulder Rehabilitation
62586	Reconstruct 57th St. Bridge, and Frontage Rds., Retaining Walls, and Ramps between 47th and 59th. Streets
62587	Wentworth Avenue Overpass Reconstruction and Wells Street Realignment
62589	Skyway Interchange Bridges and Local Lanes from Wentworth Avenue to 67th Street
62590	Reconstruct 67th St. Bridge and NB and SB C-D System between 67th and 71st St.
62591	Storm Sewer Jacking & Collector Sewers from 67th Street to 95th Street.
62592	Reconstruct NB Outside Lanes (4, 5, shoulder) from 71st to I-57 Interchange
62593	reconstruct SB Outside Lanes (4, 5, shoulder) from 71st to I-57 Interchange
62594	Reconstruct NB and SB C-D System and Ramps between 79th and 83rd Streets
62691	Reconstruct Watermain crossings under Dan Ryan from 32nd to 63rd
62692	Reconstruct Watermain Crossings Under the Dan Ryan from 75th St. to I-57 Interchange
62693	Frontage Rds., Retaining Walls, and Ramps between 59th. and 63rd.
62694	Reconstruct NB Retaining Walls & Ramps from 71st to I-57 Interchange, and 71st to 75th C-D System
62695	Reconstruct SB Retaining Walls & Ramps from 71st to I-57 Interchange, and 71st to 75th C-D System
TBA	Reconstruct NB I-57 Bridge over WB cross connection from I-94 & tunnel over SB I-94

**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**

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 quailifiable 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 advise 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

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 the submission of copies of payrolls by 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 contractor's 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

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"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.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### **2. Instructions for Certification - Lower Tier 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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**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

### **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.il.gov/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.il.gov/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.