

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

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

Technical Questions about downloading these files may be directed to Roseanne Nance (217)-785-5875 or nancer@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?

Questions Regarding	Call
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	217/785-5875

ADDENDUMS TO THE PROPOSAL FORMS

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

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RETURN WITH BID

Proposal Submitted By
Name
Address
City

Letting January 21, 2005

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. 94827
EFFINGHAM County
Section 107WRS-1,107BY,107BY-1&107B-2
Route FAP 774
Project ACF-774(23)
District 7 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)

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
2. Other special documentation and/or information that may be required by the contract special provisions

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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. 94827
EFFINGHAM County
Section 107WRS-1,107BY,107BY-1&107B-2
Project ACF-774(23)
Route FAP 774
District 7 Construction Funds**

3.39 miles of variable width widening to 3 lanes, 5 lanes and turn lanes, also milling and resurfacing, widening of 2 structures, lighting, traffic signals, bridge relocation and construction of retaining walls, all along Illinois Route 32/33 from the Shumway Wye to Ford Avenue in Effingham. // i ; includes 3.9 acres tree removal; 96,857 cu yds earth excavation; 1,743 cu yds removal and disposal of unsuitable material; 3,724 cu yds channel excavation; 489 cu yds trench backfill; 26,999 cu yds topsoil; 40.7 acres seeding; 671 cu yds gabions; 81,025 sq yds processing lime modified soils; 2,042 tons lime; 6,147 tons sub-base granular material; 1,064 sq yds bridge approach pavement; 52,852 sq yds milling; 5,135 sq yds pavement removal; 7,885 sq yds aggregate shoulders; 27,720 sq yds bituminous shoulders, SUPERPAVE; 173 sq yds concrete shoulders; 135.9 cu yds concrete removal; 1,699.2 cu yds concrete; 4,105 sq yds bridge deck grooving; 484,370 lbs structural steel; 4,260 stud shear connectors; 19,760 lbs reinforcement bars; 370,596 lbs epoxy coated reinforcement bars; 1,422 ft steel piles; 260 ft precast concrete box culvert; 414 ft storm sewers, rubber gasket; 1,218 ft concrete curb and gutter; 21 traffic barrier terminals; 71 sq ft sign panel; 101,735 ft epoxy pavement marking; 2,443 ft trench and backfill; 9,245 ft electric cable; 19 luminaires; 15 aluminum light poles; controller; 3,494 ft electric cable; 3 steel combination mast arm assemblies and poles; removal of 2 buildings; 169 ft drilled shafts in soil; 128 ft drilled shafts in rock; 1,387 cu yds granular subgrade replacement; 2 jacking and cribbing; removal and disposal of non-friable asbestos; 189 shade trees; 183 intermediate trees; 13 signal heads; 14,690 sq ft soil nailed wall; video vehicle detection system; 530 shrubs; 322 evergreens; 22,716 sq ft segmental concrete block wall; removal of 2 existing concrete decks; 75,029 sq yds bituminous base course, SUPERPAVE; 1,264 tons polymerized bituminous concrete binder and surface course, SUPERPAVE, Mix D, N90; 15,932 tons bituminous concrete binder and surface course, SUPERPAVE, Mix D, N70; 4 underwater structure; excavation protection; traffic control and protection; mobilization; Federally Funded. //j(Job No. C-97-099-01) //h(7-77710-0100) //P(IN-HOUSE) //Q(SUPERPAVE)

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 -

94827

State Job # - C-97-099-01
PPS NBR - 7-77710-0100
County Name - EFFINGHAM- -
Code - 49 - -
District - 7 - -
Section Number - 107WRS-1,107BY,107BY-1,107B-2

Project Number
ACF-0774/023/000

Route
FAP 774

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
A2000274	T-ACERX FRM MM CL 10'	EACH	17.000				
A2000716	T-ACER PLAT COL 2	EACH	22.000				
A2001016	T-ACER RUBRM 2	EACH	14.000				
A2001216	T-ACER RUB RS 2	EACH	18.000				
A2001716	T-ACER SACR 2	EACH	21.000				
A2002320	T-BETULA NIGRA 2-1/2	EACH	30.000				
A2002816	T-CATALPA SPEC 2	EACH	28.000				
A2002916	T-CELTIS OCCID 2	EACH	13.000				
A2007616	T-TAXODIUM DIS 2	EACH	26.000				
B2000366	T-ACER GINN FL SF 6'	EACH	40.000				
B2000964	T-AMELAN LAEV CL 5'	EACH	73.000				
B2001116	T-CERCIS CAN TF 2	EACH	70.000				
C2C01636	S-CORNUS SERICEA 3'C	EACH	126.000				
C2C03036	S-FORSYTH N SUN 3'C	EACH	135.000				
C2C11830	S-VIBURN D MR 2-1/2'C	EACH	82.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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 CONTRACT
 NUMBER - 94827

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 Code - 49 - -
 District - 7 - -
 Section Number - 107WRS-1,107BY,107BY-1,107B-2

Project Number
 ACF-0774/023/000

Route
 FAP 774

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
C2007218	S-ROSA KNOCKOUT 18	EACH	187.000				
D2000536	E-JUNIP CH PF CM 3'	EACH	171.000				
D2001772	E-PICEA ABIES 6'	EACH	64.000				
D2002272	E-PICEA PUNG GLAU 6'	EACH	52.000				
D2002972	E-PINUS STROBUS 6'	EACH	35.000				
XX000610	RELOCATE EX MAILBOX	EACH	22.000				
XX001017	REMOVE ROW MARKERS	EACH	23.000				
XX003196	CALA ACUT FOERSTER 1G	EACH	231.000				
XX003268	HEMERO HAPPY RET 1G	EACH	496.000				
XX003582	ELCBL C 20 3C	FOOT	706.000				
XX003982	VIDEO VEH DET SYS	L SUM	1.000				
XX004490	ECHINACEA PURP MAG 1G	EACH	331.000				
XX004529	RUDBECK FULGI GOLD 1G	EACH	331.000				
XX005186	HEMERO STELLA DORO 1 GAL	EACH	496.000				
X0300230	FUR ROW MARKERS SPL	EACH	33.000				

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X0321461	PILLAR REM	EACH	2.000				
X0321690	BRICK WALL REMOV	FOOT	31.000				
X0322831	GAILLRD X GR GB CG 2Q	EACH	331.000				
X0322923	SEGMENT CONC BLK WALL	SQ FT	22,716.000				
X0322924	RETAINING WALL REMOV	SQ FT	5,325.000				
X0322936	REMOV EX FLAR END SEC	EACH	8.000				
X0323080	DRAINAGE SCUPPR DS-12	EACH	5.000				
X0323885	TS BATT BACKUP SYSTEM	EACH	1.000				
X0323988	TEMP SOIL RETEN SYSTM	SQ FT	90.000				
X0324751	SOIL NAILED WALL	SQ FT	14,690.000				
X0324752	STORM SEWER FILLED	CU YD	125.700				
X0751105	REM EX CONC DECK N1	EACH	1.000				
X0751205	REM EX CONC DECK N2	EACH	1.000				
X3550300	BIT BC SUPER 6	SQ YD	3,635.000				
X3550500	BIT BC SUPER 8	SQ YD	7,462.000				

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X3550610	BIT BC SUPER 9 1/2	SQ YD	1,937.000				
X3550815	BIT BC SUPER 11 3/4	SQ YD	61,995.000				
X4021000	TEMP ACCESS- PRIV ENT	EACH	29.000				
X4022000	TEMP ACCESS- COM ENT	EACH	11.000				
X4023000	TEMP ACCESS- ROAD	EACH	22.000				
X4066426	BC SC SUPER "D" N70	TON	13,720.000				
X4066528	P BCSC SUPER "D" N90	TON	924.000				
X4066770	LEV BIND MM SUPER N70	TON	2,212.000				
X4066775	LEV BIND MM SUPER N90	TON	340.000				
X4080020	INCID BIT SUR SUP N50	TON	333.000				
X4402815	ISLAND PAVT RM & REPL	SQ FT	97.000				
X5020501	UNWAT STR EX PROT L1	EACH	1.000				
X5020502	UNWAT STR EX PROT L2	EACH	1.000				
X5020503	UNWAT STR EX PROT L3	EACH	1.000				
X5020504	UNWAT STR EX PROT L4	EACH	1.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X6050700	REMOVE INLET BOX	EACH	6.000				
X8300640	LT P FIB 45MH TEN MT	EACH	15.000				
X8801300	SH P LED 1F 3S BM	EACH	1.000				
X8801310	SH P LED 1F 3S MAM	EACH	6.000				
X8801400	SH P LED 1F 5S MAM	EACH	2.000				
X8801415	SH P LED 2F 3S BM	EACH	2.000				
X8801437	SH P LED 2F 1-3,1-5BM	EACH	1.000				
X8801465	SH P LED 3F2-3S1-5SBM	EACH	1.000				
X8810395	PED SH P LED 1F BM	EACH	2.000				
X8880010	ADA PED PUSH-BUTTON	EACH	2.000				
Z0002600	BAR SPLICERS	EACH	2,903.000				
Z0007601	BLDG REMOV NO 1	L SUM	1.000				
Z0007602	BLDG REMOV NO 2	L SUM	1.000				
Z0008236	DRIL SHAFT/SOIL 36	FOOT	169.000				
Z0008330	DRIL SHAFT/ROCK 30	FOOT	128.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0023500	FILL EXIST CULVERTS	CU YD	12.200				
Z0025100	F & I CABLE SPLICES	EACH	1.000				
Z0025500	F & I PROPERTY MARKER	EACH	31.000				
Z0028700	GRAN SUBGRADE REPL	CU YD	1,387.000				
Z0030255	IMP ATTN TEMP FRN TL2	EACH	4.000				
Z0030320	IMP ATTN REL FRD TL2	EACH	4.000				
Z0031301	JACKING & CRIBING L1	L SUM	1.000				
Z0031302	JACKING & CRIBING L2	L SUM	1.000				
Z0040530	PIPE UNDERDRAIN REMOV	FOOT	3,568.000				
Z0043900	PREF JOINT FILLER	FOOT	780.000				
Z0049901	R&D NON-FR ASB BLD 1	L SUM	1.000				
Z0075300	TIE BARS	EACH	391.000				
Z0076600	TRAINEES	HOUR	1,000.000		0.800		800.000
20100110	TREE REMOV 6-15	UNIT	734.000				

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20100210	TREE REMOV OVER 15	UNIT	791.000				
20100500	TREE REMOV ACRES	ACRE	3.900				
20200100	EARTH EXCAVATION	CU YD	83,330.000				
20200300	EARTH EXC - EROS CONT	CU YD	424.000				
20200410	EARTH EXCAVATION SPL	CU YD	13,527.000				
20201200	REM & DISP UNS MATL	CU YD	1,743.000				
20300100	CHANNEL EXCAV	CU YD	3,724.000				
20700220	POROUS GRAN EMBANK	CU YD	1,130.000				
20800150	TRENCH BACKFILL	CU YD	489.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	10,331.000				
21101505	TOPSOIL EXC & PLAC	CU YD	26,999.000				
25000210	SEEDING CL 2A	ACRE	19.300				
25000312	SEEDING CL 4A	ACRE	8.300				
25000314	SEEDING CL 4B	ACRE	2.400				
25000320	SEEDING CL 5	ACRE	8.300				

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25000324	SEEDING CL 5B	ACRE	2.400				
25000400	NITROGEN FERT NUTR	POUND	2,492.000				
25000500	PHOSPHORUS FERT NUTR	POUND	2,492.000				
25000600	POTASSIUM FERT NUTR	POUND	2,492.000				
25000700	AGR GROUND LIMESTONE	TON	55.400				
25100120	MULCH METHOD 2	TON	55.400				
25100630	EROSION CONTR BLANKET	SQ YD	1,322.000				
28000250	TEMP EROS CONTR SEED	POUND	2,766.000				
28000300	TEMP DITCH CHECKS	EACH	203.000				
28000400	PERIMETER EROS BAR	FOOT	1,705.000				
28000500	INLET & PIPE PROTECT	EACH	43.000				
28100107	STONE RIPRAP CL A4	SQ YD	8,907.000				
28200100	FILTER FAB FOR RIPRAP	SQ YD	9,402.000				
28400100	GABIONS	CU YD	671.000				
30200600	PROC LIME MOD SOIL 12	SQ YD	81,025.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
30201500	LIME	TON	2,042.000				
31100300	SUB GRAN MAT A 4	SQ YD	6,111.000				
31100500	SUB GRAN MAT A 6	SQ YD	10,331.000				
31101900	SUB GRAN MAT C	TON	6,147.000				
35100700	AGG BASE CSE A 8	SQ YD	1,368.000				
35101400	AGG BASE CSE B	TON	426.000				
40200800	AGG SURF CSE B	TON	371.000				
40600100	BIT MATLS PR CT	GALLON	55,016.000				
40600300	AGG PR CT	TON	280.500				
40600895	CONSTRUC TEST STRIP	EACH	2.000				
40600980	BIT SURF REM BUTT JT	SQ YD	409.000				
40600990	TEMPORARY RAMP	SQ YD	1,589.000				
42001165	BR APPR PAVT	SQ YD	1,064.000				
42001430	BR APPR PVT CON (FLX)	SQ YD	212.000				
42300200	PCC DRIVEWAY PAVT 6	SQ YD	469.000				

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42300400	PCC DRIVEWAY PAVT 8	SQ YD	652.000				
44000030	BIT SURF REM VAR DP	SQ YD	52,852.000				
44000100	PAVEMENT REM	SQ YD	5,135.000				
44000200	DRIVE PAVEMENT REM	SQ YD	2,184.000				
44000400	GUTTER REM	FOOT	1,860.000				
44000500	COMB CURB GUTTER REM	FOOT	664.000				
44001430	BIT SHOULDER REMOV	SQ YD	6,082.000				
44002500	GUT OUTLET REM	EACH	3.000				
44002805	ISLAND REMOVAL	SQ FT	303.000				
44003510	MEDIAN REMOVAL (PD)	SQ FT	1,618.000				
44004000	PAVED DITCH REMOVAL	FOOT	365.000				
44004510	PCC SHOULDER REMOVAL	SQ YD	1,748.000				
48101500	AGGREGATE SHLDS B 6	SQ YD	7,219.000				
48101600	AGGREGATE SHLDS B 8	SQ YD	665.000				
48202600	BIT SHLD SUPER 8	SQ YD	27,720.000				

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48300100	PCC SHOULDERS 6	SQ YD	173.000				
50100100	REM EXIST STRUCT	EACH	1.000				
50102400	CONC REM	CU YD	135.900				
50104650	SLOPE WALL REMOV	SQ YD	1,502.000				
50105200	REM EXIST CULVERTS	EACH	44.000				
50200100	STRUCTURE EXCAVATION	CU YD	747.000				
50300100	FLOOR DRAINS	EACH	24.000				
50300225	CONC STRUCT	CU YD	449.400				
50300255	CONC SUP-STR	CU YD	1,249.800				
50300260	BR DECK GROOVING	SQ YD	4,105.000				
50300300	PROTECTIVE COAT	SQ YD	4,620.000				
50300310	ELAST BEARING ASSY T1	EACH	40.000				
50300320	ELAST BEARING ASSY T2	EACH	10.000				
50400405	P P CONC DK BM 21 DP	SQ FT	3,101.000				
50500105	F & E STRUCT STEEL	L SUM	1.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
50500505	STUD SHEAR CONNECTORS	EACH	4,260.000				
50800105	REINFORCEMENT BARS	POUND	19,760.000				
50800205	REINF BARS, EPOXY CTD	POUND	370,596.000				
50900205	STEEL RAILING TY S1	FOOT	222.000				
51201400	FUR STL PILE HP10X42	FOOT	448.000				
51201500	FUR STL PILE HP10X57	FOOT	294.000				
51201600	FUR STL PILE HP12X53	FOOT	680.000				
51202700	DRIVE STL PILE	FOOT	1,422.000				
51203400	TEST PILE ST HP10X42	EACH	2.000				
51203500	TEST PILE ST HP10X57	EACH	2.000				
51203600	TEST PILE ST HP12X53	EACH	2.000				
51204315	CONCRETE ENCASEMENT	CU YD	31.400				
51205200	TEMP SHT PILING	SQ FT	1,240.000				
51500100	NAME PLATES	EACH	3.000				
54001001	BOX CUL END SEC C1	EACH	2.000				

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54001002	BOX CUL END SEC C2	EACH	2.000				
54001003	BOX CUL END SEC C3	EACH	1.000				
54001004	BOX CUL END SEC C4	EACH	1.000				
54002020	EXPAN BOLTS 3/4	EACH	102.000				
54010202	PCBC 2X2	FOOT	45.000				
54010302	PCBC 3X2	FOOT	52.000				
54010303	PCBC 3X3	FOOT	30.000				
54010403	PCBC 4X3	FOOT	133.000				
542A0223	P CUL CL A 1 18	FOOT	236.000				
542A0229	P CUL CL A 1 24	FOOT	183.000				
542A0241	P CUL CL A 1 36	FOOT	140.000				
542D0220	P CUL CL D 1 15	FOOT	579.000				
542D0223	P CUL CL D 1 18	FOOT	449.000				
542D0226	P CUL CL D 1 21	FOOT	135.000				
542D0229	P CUL CL D 1 24	FOOT	232.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
542D0235	P CUL CL D 1 30	FOOT	102.000				
542D1066	P CUL CL D 2 21	FOOT	80.000				
542D1075	P CUL CL D 2 30	FOOT	166.000				
542D5470	P CUL CL D 1 EQRS 15	FOOT	225.000				
542D5473	P CUL CL D 1 EQRS 18	FOOT	30.000				
542JA024	P CUL CL A 24 JKD	FOOT	154.000				
542JA030	P CUL CL A 30 JKD	FOOT	182.000				
54207162	P CUL 1 RC-E EQRS 27	FOOT	105.000				
54213447	END SECTIONS 12	EACH	4.000				
54213450	END SECTIONS 15	EACH	28.000				
54213453	END SECTIONS 18	EACH	18.000				
54213456	END SECTIONS 21	EACH	8.000				
54213459	END SECTIONS 24	EACH	10.000				
54213465	END SECTIONS 30	EACH	8.000				
54213663	PRC FLAR END SEC 18	EACH	3.000				

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54213669	PRC FLAR END SEC 24	EACH	10.000				
54213675	PRC FLAR END SEC 30	EACH	4.000				
54213681	PRC FLAR END SEC 36	EACH	4.000				
54214290	END SEC EQV R-S 15	EACH	10.000				
54214293	END SEC EQV R-S 18	EACH	2.000				
54214722	PRCF END S EL EQRS 27	EACH	2.000				
54216930	R C PIPE TEE 18P 18R	EACH	1.000				
54217680	R C PIPE TEE 24P 24R	EACH	1.000				
550A0070	STORM SEW CL A 1 15	FOOT	15.000				
550A0120	STORM SEW CL A 1 24	FOOT	685.000				
550A0160	STORM SEW CL A 1 36	FOOT	276.000				
550A2320	SS RG CL A 1 12	FOOT	51.000				
550A2340	SS RG CL A 1 18	FOOT	21.000				
550A2360	SS RG CL A 1 24	FOOT	342.000				
55100500	STORM SEWER REM 12	FOOT	8.000				

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55100700	STORM SEWER REM 15	FOOT	52.000				
55100900	STORM SEWER REM 18	FOOT	126.000				
55101100	STORM SEWER REM 21	FOOT	331.000				
55101200	STORM SEWER REM 24	FOOT	754.000				
55101600	STORM SEWER REM 36	FOOT	195.000				
55101900	STORM SEWER REM 48	FOOT	359.000				
59100100	GEOCOMPOSITE WALL DR	SQ YD	490.000				
60100060	CONC HDWL FOR P DRAIN	EACH	15.000				
60100905	PIPE DRAINS 4	FOOT	4,152.000				
60100945	PIPE DRAINS 12	FOOT	261.000				
60108200	PIPE UNDERDRAIN 6 SP	FOOT	238.000				
60109520	P UNDR FAB LINE TR 6	FOOT	5,641.000				
60218300	MAN TA 4 DIA T1F OL	EACH	1.000				
60218500	MAN TA 4 DIA T3F&G	EACH	1.000				
60221100	MAN TA 5 DIA T1F CL	EACH	1.000				

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60221700	MAN TA 5 DIA T8G	EACH	1.000				
60222805	MAN TA 5D M IN 604106	EACH	1.000				
60223800	MAN TA 6 DIA T1F CL	EACH	1.000				
60235700	INLETS TA T3F&G	EACH	1.000				
60240220	INLETS TB T3F&G	EACH	1.000				
60246605	MED INLET (604101)	EACH	1.000				
60260500	INLETS ADJ NEW T3F&G	EACH	2.000				
60266600	VALVE BOX ADJ	EACH	3.000				
60266700	VALVE BOX RECONST	EACH	1.000				
60500040	REMOV MANHOLES	EACH	10.000				
60500060	REMOV INLETS	EACH	9.000				
60600095	CLASS SI CONC OUTLET	CU YD	14.000				
60602500	CONC GUTTER TA	FOOT	1,465.000				
60605000	COMB CC&G TB6.24	FOOT	1,218.000				
60623200	CONC MED TSM6.24	SQ FT	1,398.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60900315	TY D INLET BOX 609006	EACH	4.000				
60900515	CONC THRUST BLOCKS	EACH	4.000				
63000000	SPBGR TY A	FOOT	1,100.000				
63000130	SPBGR TY A SPL	FOOT	119.000				
63100075	TRAF BAR TERM T5A	EACH	4.000				
63100085	TRAF BAR TERM T6	EACH	8.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	9.000				
63200310	GUARDRAIL REMOV	FOOT	716.000				
66600105	FUR ERECT ROW MARKERS	EACH	89.000				
66700205	PERM SURV MKRS T1	EACH	16.000				
67000400	ENGR FIELD OFFICE A	CAL MO	21.000				
67000600	ENGR FIELD LAB	CAL MO	21.000				
67100100	MOBILIZATION	L SUM	1.000				
70100450	TRAF CONT-PROT 701201	L SUM	1.000				
70100460	TRAF CONT-PROT 701306	L SUM	1.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
70103815	TR CONT SURVEILLANCE	CAL DA	104.000				
70104490	TR CONT-PROT SPL L1	EACH	1.000				
70104495	TR CONT-PROT SPL L2	EACH	1.000				
70104500	TR CONT-PROT SPL L3	EACH	1.000				
70300100	SHORT-TERM PAVT MKING	FOOT	27,096.000				
70300210	TEMP PVT MK LTR & SYM	SQ FT	1,846.000				
70300220	TEMP PVT MK LINE 4	FOOT	88,914.000				
70300240	TEMP PVT MK LINE 6	FOOT	8,371.000				
70300260	TEMP PVT MK LINE 12	FOOT	4,208.000				
70300280	TEMP PVT MK LINE 24	FOOT	225.000				
70300520	PAVT MARK TAPE T3 4	FOOT	2,746.000				
70300610	TEMP PT PAVT MK L&S	SQ FT	73.000				
70300625	TEMP PT PVT M LINE 4	FOOT	92,863.000				
70300645	TEMP PT PVT M LINE 12	FOOT	1,830.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	57,773.000				

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70400500	TEMP CON BAR (ST OWN)	FOOT	1,231.000				
70400600	REL TEMP CONC BAR SO	FOOT	1,181.000				
72000100	SIGN PANEL T1	SQ FT	9.000				
72000200	SIGN PANEL T2	SQ FT	62.000				
73000100	WOOD SIN SUPPORT	FOOT	18.000				
78005100	EPOXY PVT MK LTR-SYM	SQ FT	1,846.000				
78005110	EPOXY PVT MK LINE 4	FOOT	88,914.000				
78005130	EPOXY PVT MK LINE 6	FOOT	8,388.000				
78005150	EPOXY PVT MK LINE 12	FOOT	4,208.000				
78005180	EPOXY PVT MK LINE 24	FOOT	225.000				
78100100	RAISED REFL PAVT MKR	EACH	1,661.000				
78200405	GUARDRAIL MARKERS	EACH	21.000				
78200500	BARRIER WALL MARKERS	EACH	10.000				
78201000	TERMINAL MARKER - DA	EACH	8.000				
78300500	PAINT PAVT MK REMOV	SQ FT	12,224.000				

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80400100	ELECT SERV INSTALL	EACH	4.000				
80500200	SERV INSTALL TY B	EACH	1.000				
80802100	W POLE 35 CL 4	EACH	1.000				
81012600	CON T 2 PVC	FOOT	1,530.000				
81012700	CON T 2 1/2 PVC	FOOT	775.000				
81012800	CON T 3 PVC	FOOT	7.000				
81013000	CON T 4 PVC	FOOT	123.000				
81013200	CON T 6 PVC	FOOT	8.000				
81021330	CON P 2 PVC	FOOT	848.000				
81021340	CON P 2 1/2 PVC	FOOT	435.000				
81021370	CON P 4 PVC	FOOT	145.000				
81021390	CON P 6 PVC	FOOT	98.000				
81400100	HANDHOLE	EACH	7.000				
81400300	DBL HANDHOLE	EACH	2.000				
81500200	TR & BKFIL F ELECT WK	FOOT	2,443.000				

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81702110	EC C XLP USE 1C 10	FOOT	8,829.000				
81702130	EC C XLP USE 1C 6	FOOT	456.000				
82102250	LUM SV HOR MT 250W	EACH	4.000				
82103900	LUM SV MM 250W	EACH	15.000				
82500510	LT CONT CBRCS 60-240	EACH	4.000				
83600200	LIGHT POLE FDN 24D	FOOT	120.000				
83800505	BKWY DEV COU AL SKIRT	EACH	60.000				
85700200	FAC T4 CAB	EACH	1.000				
86400100	TRANSCEIVER - FIB OPT	EACH	2.000				
87100110	FO CAB C 62.5/125 6F	FOOT	1,366.000				
87301225	ELCBL C SIGNAL 14 3C	FOOT	244.000				
87301235	ELCBL C SIGNAL 14 4C	FOOT	270.000				
87301245	ELCBL C SIGNAL 14 5C	FOOT	2,125.000				
87301255	ELCBL C SIGNAL 14 7C	FOOT	801.000				
87301805	ELCBL C SERV 6 2C	FOOT	54.000				

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87502310	TS POST PS 16	EACH	1.000				
87502330	TS POST PS 18	EACH	2.000				
87702910	STL COMB MAA&P 36	EACH	1.000				
87702940	STL COMB MAA&P 42	EACH	1.000				
87702970	STL COMB MAA&P 48	EACH	1.000				
87702985	STL COMB MAA&P 52	EACH	1.000				
87800100	CONC FDN TY A	FOOT	18.000				
87800210	CONC FDN TY D SPL	FOOT	6.000				
87800415	CONC FDN TY E 36D	FOOT	52.000				
87900100	DRILL EX FOUNDATION	EACH	1.000				
88200400	TS BACKPLATE F PLAST	EACH	18.000				
88700200	LIGHT DETECTOR	EACH	2.000				
88700300	LIGHT DETECTOR AMP	EACH	1.000				

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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.

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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.

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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.

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(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 each of its subcontractors. Unless otherwise directed in writing by the Department, 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 may be indicated as to be subcontracted.

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.

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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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. _____

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- 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 ___

(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. _____

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 ___

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

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

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

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

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

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(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. 94827
EFFINGHAM County
Section 107WRS-1,107BY,107BY-1&107B-2
Project ACF-774(23)
Route FAP 774
District 7 Construction Funds

PART I. IDENTIFICATION

Dept. Human Rights # _____ Duration of Project: _____

Name of Bidder: _____

PART II. WORKFORCE PROJECTION

A. The undersigned bidder has analyzed minority group and female populations, unemployment rates and availability of workers for the location in which this contract work is to be performed, and for the locations from which the bidder recruits employees, and hereby submits the following workforce projection including a projection for minority and female employee utilization in all job categories in the workforce to be allocated to this contract:

TABLE A

TOTAL Workforce Projection for Contract												
JOB CATEGORIES	TOTAL EMPLOYEES		MINORITY EMPLOYEES						TRAINEES			
			BLACK		HISPANIC		*OTHER MINOR.		APPRENTICES		ON THE JOB TRAINEES	
	M	F	M	F	M	F	M	F	M	F	M	F
OFFICIALS (MANAGERS)												
SUPERVISORS												
FOREMEN												
CLERICAL												
EQUIPMENT OPERATORS												
MECHANICS												
TRUCK DRIVERS												
IRONWORKERS												
CARPENTERS												
CEMENT MASONS												
ELECTRICIANS												
PIPEFITTERS, PLUMBERS												
PAINTERS												
LABORERS, SEMI-SKILLED												
LABORERS, UNSKILLED												
TOTAL												

TABLE B

CURRENT EMPLOYEES TO BE ASSIGNED TO CONTRACT			
TOTAL EMPLOYEES		MINORITY EMPLOYEES	
M	F	M	F

TABLE C

TOTAL Training Projection for Contract								
EMPLOYEES IN TRAINING	TOTAL EMPLOYEES		BLACK		HISPANIC		*OTHER MINOR.	
	M	F	M	F	M	F	M	F
APPRENTICES								
ON THE JOB TRAINEES								

FOR DEPARTMENT USE ONLY

*Other minorities are defined as Asians (A) or Native Americans (N).

Please specify race of each employee shown in Other Minorities column.

Note: See instructions on the next page

RETURN WITH BID

**Contract No. 94827
EFFINGHAM County
Section 107WRS-1,107BY,107BY-1&107B-2
Project ACF-774(23)
Route FAP 774
District 7 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. 94827
EFFINGHAM County
Section 107WRS-1,107BY,107BY-1&107B-2
Project ACF-774(23)
Route FAP 774
District 7 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



Illinois Department of Transportation

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

Item No.
Letting Date

KNOW ALL MEN BY THESE PRESENTS, That We

as PRINCIPAL, and

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

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

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

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

In TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this day of A.D.,

PRINCIPAL

SURETY

(Company Name)

(Company Name)

By: (Signature & Title)

By: (Signature of Attorney-in-Fact)

Notary Certification for Principal and Surety

STATE OF ILLINOIS, COUNTY OF

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

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

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

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

My commission expires Notary Public

In lieu of completing the above section of the Proposal Bid Form, the Principal may file an Electronic Bid Bond. By signing 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 323
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. 94827
EFFINGHAM County
Section 107WRS-1,107BY,107BY-1&107B-2
Project ACF-774(23)
Route FAP 774
District 7 Construction Funds



Illinois Department of Transportation



- 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., January 21, 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. 94827
EFFINGHAM County
Section 107WRS-1,107BY,107BY-1&107B-2
Project ACF-774(23)
Route FAP 774
District 7 Construction Funds**

3.39 miles of variable width widening to 3 lanes, 5 lanes and turn lanes, also milling and resurfacing, widening of 2 structures, lighting, traffic signals, bridge relocation and construction of retaining walls, all along Illinois Route 32/33 from the Shumway Wye to Ford Avenue in Effingham. // i ; includes 3.9 acres tree removal; 96,857 cu yds earth excavation; 1,743 cu yds removal and disposal of unsuitable material; 3,724 cu yds channel excavation; 489 cu yds trench backfill; 26,999 cu yds topsoil; 40.7 acres seeding; 671 cu yds gabions; 81,025 sq yds processing lime modified soils; 2,042 tons lime; 6,147 tons sub-base granular material; 1,064 sq yds bridge approach pavement; 52,852 sq yds milling; 5,135 sq yds pavement removal; 7,885 sq yds aggregate shoulders; 27,720 sq yds bituminous shoulders, SUPERPAVE; 173 sq yds concrete shoulders; 135.9 cu yds concrete removal; 1,699.2 cu yds concrete; 4,105 sq yds bridge deck grooving; 484,370 lbs structural steel; 4,260 stud shear connectors; 19,760 lbs reinforcement bars; 370,596 lbs epoxy coated reinforcement bars; 1,422 ft steel piles; 260 ft precast concrete box culvert; 414 ft storm sewers, rubber gasket; 1,218 ft concrete curb and gutter; 21 traffic barrier terminals; 71 sq ft sign panel; 101,735 ft epoxy pavement marking; 2,443 ft trench and backfill; 9,245 ft electric cable; 19 luminaires; 15 aluminum light poles; controller; 3,494 ft electric cable; 3 steel combination mast arm assemblies and poles; removal of 2 buildings; 169 ft drilled shafts in soil; 128 ft drilled shafts in rock; 1,387 cu yds granular subgrade replacement; 2 jacking and cribbing; removal and disposal of non-friable asbestos; 189 shade trees; 183 intermediate trees; 13 signal heads; 14,690 sq ft soil nailed wall; video vehicle detection system; 530 shrubs; 322 evergreens; 22,716 sq ft segmental concrete block wall; removal of 2 existing concrete decks; 75,029 sq yds bituminous base course, SUPERPAVE; 1,264 tons polymerized bituminous concrete binder and surface course, SUPERPAVE, Mix D, N90; 15,932 tons bituminous concrete binder and surface course, SUPERPAVE, Mix D, N70; 4 underwater structure; excavation protection; traffic control and protection; mobilization; Federally Funded. //j(Job No. C-97-099-01) //h(7-77710-0100) //P(IN-HOUSE) //Q(SUPERPAVE)

- 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

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2004

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 1-1-04)

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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1, 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 FAP Route 774 (Ill. 32/33), Section 107WRS-1,107BY,107BY-1&107B-2 in Effingham County and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

FAP Route 774 (Ill. 32/33)
Section 107WRS-1,107BY,107BY-1&107B-2
Effingham County
Contract No. 94827

LOCATION OF PROJECT

The work included in this section is located in Effingham County on IL Route 32/33, from just west of the Shumway Wye to just east of Ford Avenue on the northwest side of the city of Effingham.

DESCRIPTION OF PROJECT

The work included in this Section consists primarily of:

1. Milling and resurfacing IL Route 32/33 entire length of project.
2. 0.54 miles of widening to three lanes and 2.85 miles of widening to five lanes.
3. Constructing bituminous and aggregate shoulders.
4. Ditch re-grading and across road culvert extensions.
5. New driveway entrances and culverts.
6. Widen and deck replacement of bridges over Little Wabash River and Little Wabash River Overflow, guardrail removal and replacement.
7. Retaining wall removal and construction of new soil-nailed retaining wall.
8. 1580 feet of new storm sewer, including manholes and inlets.
9. At 1700th Street intersection, construct 825 feet of new roadway on new alignment.
10. At IL Route 32/33 Wye intersection, rebuild intersection eliminating northbound ramp, island removal and replacement, lighting.
11. At Lake Sara Road intersection, widening to provide a right turn lane and new island, lighting.
12. At Nazarene Road intersection, widening to provide a right turn lane and island removal and replacement, lighting.

13. At 1200th Street intersection, remove existing bridge over Green Creek, construct new bridge over Green Creek on new alignment, construct 1300 feet of new roadway on new alignment.
14. At Ford Avenue intersection, curb and gutter, island, signals, lighting, and storm sewer.

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within 225 working days.

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 contained herein and in the plans.

Special attention is called to Articles 107.09, 107.14 and 107.15 of the Standard Specifications for Road and Bridge Construction, the following Highway Standards and Recurring Special Provisions relating to traffic control:

Highway Standards:

701001 701006 701011 701201 701301 701306 701311 701326 701501 702001
704001

Standard 701001: This standard is appropriate for landscape and utility work. TRAFFIC CONTROL AND PROTECTION STANDARD 701001, will not be measured for payment.

Standard 701006: This Standard is appropriate for grading and shaping ditches and culvert work. TRAFFIC CONTROL AND PROTECTION STANDARD 701006 will not be measured for payment.

Standard 701011: This Standard is appropriate for shoulder work, culvert extensions and utility work. TRAFFIC CONTROL AND PROTECTION STANDARD 701011 will not be measured for payment.

Standard 701201: This Standard is appropriate for construction of storm sewer and culverts and utility operations. TRAFFIC CONTROL AND PROTECTION STANDARD 701201 will be paid for at the contract Lump Sum price for TRAFFIC CONTROL AND PROTECTION STANDARD 701201.

Standard 701301: This standard will apply when short time work operations are being performed. Typical such operations are bituminous density testing, application of temporary pavement marking, and miscellaneous survey operations. TRAFFIC CONTROL AND PROTECTION STANDARD 701301 will not be measured for payment.

Standard 701306: This standard is appropriate for bituminous resurfacing and milling operations performed under traffic. TRAFFIC CONTROL AND PROTECTION STANDARD 701306 will be paid for at the contract Lump Sum price for TRAFFIC CONTROL AND PROTECTION STANDARD 701306.

Standard 701311: This standard is appropriate for pavement marking, landscaping, and utility work. TRAFFIC CONTROL AND PROTECTION STANDARD 701311 will not be measured for payment.

Standard 701326: This standard is appropriate for the construction of pavement along IL Route 32/33. Arrow boards and construction speed limit signs shall be operated at all times when a lane is closed. This standard is included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 1 and TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 2.

Standard 701501: This standard is appropriate for use during staged removal or staged construction of pavement, storm sewer, or curb and gutter. It will apply during construction of the public road approaches throughout the project. This standard is included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 3.

Standard 702001: This standard is appropriate during all stages of construction, as required on plans.

Standard 704001: This standard is appropriate during Stage I and Stage II construction as required on the plans.

Two-lane two-way traffic will be maintained along IL Route 32/33 at all times except during intermittent operations during daylight hours. Two-lane two-way operations will be maintained at all times during nighttime hours. No lane closures from 6:00 A.M. to 8:00 A.M. and from 3:00 P.M. to 5:30 P.M. Monday to Friday.

Access will be maintained to all Public Access Roads, commercial and private entrances at all times by utilizing stage construction. Contractor shall provide a bituminous wedge where the vertical offset from an entrance to the adjoining pavement is 1½" or greater.

At any particular location, the Contractor shall work on only one side of the pavement at a time, and shall keep equipment, material, and vehicles off the pavement and shoulders on the side of the pavement open to traffic.

To clarify Article 107.09, the traveled way shall be defined as traffic lanes and shoulders.

TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 1 shall include all labor, materials, signing and equipment necessary for the complete installation and maintenance of TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 1 as shown in the plans for Traffic Control Stage I Construction.

TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 1 will be measured on a Lump Sum basis and paid for at the contract Lump Sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 1, which price shall include all necessary Traffic Control for Stage I and no additional compensation will be allowed, except Temporary Concrete Barriers (State Owned). Impact Attenuators Temporary (Fully Redirective, Narrow) Test Level 2, and

Attenuators, Relocate (Fully Redirective) Test Level 2, and which shall be measured and paid for separately.

TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 2 shall include all labor, materials, signing, and equipment necessary for the complete installation and maintenance of TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 2 as shown in the plans for Traffic Control Stage II Construction.

TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 2 will be measured on a Lump Sum basis and paid for at the contract Lump Sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 2, which price shall include all necessary Traffic Control for Stage II and no additional compensation will be allowed, except Temporary Concrete Barriers (State Owned), Impact Attenuators Temporary (Fully Redirective, Narrow) Test Level 2, and Impact Attenuators, Relocate (Fully Redirective) Test Level 2, which shall be measured and paid for separately.

TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 3 shall include all labor, materials, signing, and equipment necessary for the complete installation and maintenance of TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 3, as shown in the plans for Traffic Control Stage III Construction.

TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 3 will be measured on a Lump Sum basis and paid for at the contract Lump Sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL) LOCATION 3, which price shall include all necessary Traffic Control for Stage III and no additional compensation will be allowed.

SUGGESTED SEQUENCE OF OPERATION

Pre-Stage I

1. Under traffic, mill the existing surface and place $\frac{3}{4}$ " leveling binder as shown in the typicals the entire length of the project. Apply temporary paint pavement markings to maintain current traffic lanes, including turn lane letters and symbols. At bridges, use temporary paint pavement marking to shift traffic for Stage I Construction per the plans.

Stage I

1. Maintain 2 lane, 2 way traffic the entire length of the project on existing pavement. Maintain access to all entrances and side roads throughout construction.
2. Construct right side embankment, ditches and erosion control, maintaining drainage of existing across road culverts.
3. Construct new across road culverts and construct right side of all existing across road culvert extensions.
4. Construct pavement widening, shoulders, curb and gutter, etc. on right side of IL Route 32/33. Top of widening to match elevation of leveling binder at existing edge of pavement.
5. Construct public access road intersections and entrances on right side of IL Route 32/33.
6. Construct temporary access road at Wabash River Hill Road.

7. Construct retaining wall on right side of IL Route 32/33 from Sta. 985+45 to Sta. 988+55.
8. Construct right side widening of both IL Route 32/33 bridges.
9. Excess excavation from Stage I may be utilized for the embankment of relocated 1200th Street. The Contractor shall use flaggers when transporting excavated material across IL Route 32/33 traffic lanes.
10. At the IL Route 32/33 Wye Intersection:
 - a. Construct relocated 1700th Avenue, Resurface 1700th Avenue as shown in the plans.
 - b. Maintain traffic on northbound ramp. Close crossover leg to northbound ramp. Redirect this traffic to relocated 1700th Avenue.
 - c. Construct IL Route 32 Stage 1A and 1B as shown in the plans, maintaining southbound traffic.
11. At IL Route 32/33 from Sta. 40+10 to end of job:
 - a. Install storm sewers
 - b. Install traffic signals and lights
 - c. Construct widening on both sides of IL Route 32/33. Note Contractor is limited to working on one side of roadway at a time.
 - d. Mill and resurface to finished grade.

Stage II

1. Maintain 2 lane, 2 way traffic the entire length of the project. Apply temporary paint pavement markings to shift traffic over to new widening as shown on the plans, including left turn lanes at Lake Sara Road and Nazarene Road. Use Tape Pavement Marking, Type III on final bridge and approach slab surfaces. Maintain access to all entrances and side roads throughout construction. Construct left side embankment, ditches and erosion control, maintaining drainage of existing across road culverts.
2. Construct left side of all across road culvert extensions.
3. Construct pavement widening, shoulders, curb and gutter, etc. on left side of IL Route 32/33. Top of widening to match elevation of leveling binder at existing edge of pavement.
4. Construct public access road intersections and entrances on left side of IL Route 32/33.
5. Place final surface course on side roads and on IL Route 32/33 where shown in the plans.
6. Construct left side of both IL Route 32/33 bridge widening.
7. Close 1200th Street during construction. Maintain access for farm equipment along 1200th Street throughout construction. Construct Green Creek Bridge and relocated 1200th Street.
8. Construct retaining wall system on left side of IL Route 32/33 from Sta. 1026+06 to Sta. 1033+86.
9. Install lighting at Lake Sara Road and Nazarene Road.

Stage III

1. Maintain 2-lane, 2-way traffic the entire length of the project. Apply temporary paint pavement markings to shift traffic as shown in plans. Use Tape Pavement Marking, Type III on final bridge and approach slab surfaces.
2. Maintain access to all entrances and side roads throughout the project.
3. Place final surface course on side roads and remaining portions of IL Route 32/33 as shown in the plans.
4. Apply final pavement markings.

SIGNAL HEAD AND PEDESTRIAN SIGNAL HEAD

The manufacture and installation of a Signal Head and Pedestrian Signal Head shall meet the applicable portions of Section 880 and 881, and Articles 1078.01 and 1078.02 of the Standard Specifications except as revised in A and B below.

A. The new traffic signal heads shall consist of 12" polycarbonate sections and shall be equipped with LED assemblies for all red solid, yellow solid, green solid, yellow arrow, and green arrow indications.

The traffic signal head shall have a yellow finish with black doors and tunnel visors.

The LED assemblies for the red, yellow, and green solid and arrow indications shall meet or exceed the following minimum specifications:

RED LED ASSEMBLY

Lens : 12" Diameter, Red, Hard Coated for Abrasion Resistance, UV Stabilized Dome

LEDS: Interconnected to minimize the effect of single LED failures, Nominal Wattage : 12 W or less, Nominal Wavelength : 622-626nm

Minimum Luminous Intensity (cd): 339

Product Warranty: 5 Year Replacement (Materials, Workmanship, and Intensity)

The assembly shall be capable of operating from 80 to 135 VAC with less than 10% variation in intensity, shall have an operating temperature range of 40° to 74°C, and shall be sealed and highly resistant to water intrusion.

The assembly shall conform to the latest applicable (Part II) ITE color requirements and meet ITE specifications for LED traffic signals, including intensity requirements at -40° to 74°C.

The assembly shall be compatible with signal control equipment per NEMA TS-2, NEMA TS-1 standards, and include transient voltage protection and fusing to withstand high-repetition noise transients and low repetition high energy transients per NEMA standard 1992 and ITE VTCSH - STD PART 2.

YELLOW LED ASSEMBLY

Lens : 12" Diameter, Clear or Yellow, Hard Coated for Abrasion Resistance, UV Stabilized Dome

LEDS: Interconnected to minimize the effect of single LED failures, Nominal Wattage : 32 W or less, Nominal Wavelength : 590-592nm

Minimum Luminous Intensity (cd): 678

Product Warranty: 5 Year Replacement (Materials, Workmanship, and Intensity)

The assembly shall be capable of operating from 80 to 135 VAC with less than 10% variation in intensity, shall have an operating temperature range of 40° to 74°C, and shall be sealed and highly resistant to water intrusion.

The assembly shall conform to the latest applicable (Part II) ITE color requirements and meet ITE specifications for LED traffic signals, including intensity requirements at -40° to 74°C, except for when its terms are in conflict with the terms contained in this special provision. In such cases, this special provision shall supercede the contrary ITE specification.

The assembly shall be compatible with signal control equipment per NEMA TS-2, NEMA TS-1 standards, and include transient voltage protection and fusing to withstand high-repetition noise transients and low repetition high energy transients per NEMA standard 1992 and ITE VTCSH - STD PART 2.

GREEN LED ASSEMBLY

Lens : 12" Diameter, Hard Coated for Abrasion Resistance, UV Stabilized Dome

LEDS: Interconnected to minimize the effect of single LED failures, Nominal Wattage : 12 W or less, Nominal Wavelength : 505 - 508nm

Minimum Luminous Intensity (cd): 678

Product Warranty: 5 Year Replacement (Materials, Workmanship, and Intensity)

The assembly shall be capable of operating from 80 to 135 VAC with less than 10% variation in intensity, shall have an operating temperature range of 40° to 74°C, and shall be sealed and highly resistant to water intrusion.

The assembly shall conform to the latest applicable (Part II) ITE color requirements and meet ITE specifications for LED traffic signals, including intensity requirements at -40° to 74°C.

The assembly shall be compatible with signal control equipment per NEMA TS-2, NEMA TS-1 standards, and include transient voltage protection and fusing to withstand high-repetition noise transients and low repetition high energy transients per NEMA standard 1992 and ITE VTCSH -STD Part 2

YELLOW ARROW LED ASSEMBLY

Lens : 12" Diameter, Clear or Yellow, Hard Coated for Abrasion Resistance, UV Stabilized Dome

LEDs: Interconnected to minimize the effect of single LED failures, Nominal Wattage: 12 W or less, Nominal Wavelength: 590-592nm, Shall Have a Full Profile Arrow Indication (No Outlined or 2 Row Indications)

Product Warranty: 5 Year Replacement (Materials, Workmanship, and Intensity)
The assembly shall be capable of operating from 80 to 135 VAC with less than 10% variation in intensity, shall have an operating temperature range of 40° to 74°C, and shall be sealed and highly resistant to water intrusion.

The assembly shall conform to the latest applicable (Part II) ITE color requirements and meet ITE specifications for LED traffic signals, including intensity requirements at -40° to 74°C.

The assembly shall be compatible with signal control equipment per NEMA TS-2, NEMA TS-1 standards, and include transient voltage protection and fusing to withstand high-repetition noise transients and low repetition high energy transients per NEMA standard 1992 per ITE VTCSH - STS Part 2.

GREEN ARROW LED ASSEMBLY

Lens : 12" Diameter, Hard Coated for Abrasion Resistance, UV Stabilized Dome

LEDs: Interconnected to minimize the effect of single LED failures, Nominal Wattage: 11 W or less, Nominal Wavelength: 505 -508nm, Shall Have a Full Profile Arrow Indication (No Outlined or 2 Row Indications)

Product Warranty: 5 Year Replacement (Materials, Workmanship, and Intensity)

The assembly shall be capable of operating from 80 to 135 VAC with less than 10% variation in intensity, shall have an operating temperature range of 40° to 74°C, and shall be sealed and highly resistant to water intrusion.

The assembly shall conform to the latest applicable (Part II) ITE color requirements and meet ITE specifications for LED traffic signals, including intensity requirements at -40° to 74°C.

The assembly shall be compatible with signal control equipment per NEMA TS-2, NEMA TS-1 standards, and include transient voltage protection and fusing to withstand high-repetition noise transients and low repetition high energy transients per NEMA standard 1992 per ITE VTCSH - STD Part 2.

B. The LED signal face shall have the international Hand symbol (Upraised Hand - Color: Portland Orange, Walking Person - Color: White). Outlined indications will not be allowed.

Lens : 16" x 17" (Nominal), Hard Coated for Abrasion Resistance, UV Stabilized Dome

LEDs: Interconnected to minimize the effect of single LED failures, Nominal Wattage: 7 W or less

Product Warranty: 5-Year Replacement (Materials, Workmanship, and Intensity)

The assembly shall be capable of operating from 80 to 135 VAC with less than 10% variation in intensity, shall have an operating temperature range of 40° to 74°C, and shall be sealed and highly resistant to water intrusion.

The assembly shall conform to the latest applicable (Part II) ITE color requirements and meet ITE specifications for LED traffic signals, including intensity requirements at -40° to 74°C.

The assembly shall be compatible with signal control equipment per NEMA TS-2, NEMA TS-1 standards, and include transient voltage protection and fusing to withstand high-repetition noise transients and low repetition high energy transients per NEMA standard 1992 per ITE VTCSH - STD Part 2.

The cost of complying with the above requirements will not be paid for separately, but will be considered incidental to the contract unit price per each for SIGNAL HEAD and PEDESTRIAN SIGNAL HEAD, of the type specified.

TRAFFIC SIGNAL BATTERY BACKUP SYSTEM

The following is a specification for an uninterruptible power supply for traffic signals utilizing light emitting diodes (led) traffic signal modules.

GENERAL

The uninterruptible power supply (UPS) shall include, but not be limited to the following: inverter/charger, power transfer relay, batteries, a separate manually operated non-electronic bypass switch and all necessary hardware and interconnect wiring (UPS Block Diagram Standard). The UPS shall provide reliable emergency power to a traffic signal in the event of a power failure or interruption. The transfer from utility power to battery power and visa versa shall not interfere with the normal operation of traffic controller, conflict monitor/ malfunction management unit or any other peripheral devices within the traffic controller assembly.

The UPS shall provide power for full run-time operation for an "LED-only" intersection (all colors red, yellow, and green) or flashing mode operation for an intersection using Red LED's.

The UPS shall be designed for outdoor applications, and shall meet the environmental requirements of, "NEMA Standards Publication No. TS 2 – Traffic Controller Assemblies," or applicable successor NEMA specifications, except as modified herein.

1.0 OPERATION

1.1

The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power.

1.1.1

The UPS shall provide a minimum six (6) hours of full run-time operation for LED signal modules load at 25 °C (77 °F) (minimum 700W/1000VA active output capacity, with 80% minimum inverter efficiency).

1.2

The maximum transfer time from loss of utility power to switchover to battery backed inverter power shall be 65 milliseconds.

1.3

The UPS shall provide the user with 4-sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel-mounted terminal block, rated at a minimum 120V/1A, and labeled so as to identify each contact (Manual Bypass Switch and Relay Contacts Standard).

1.3.1

The first set of NO and NC contact closures shall be energized whenever the unit switches to battery power. Contact shall be labeled or marked "On Batt."

1.3.2

The second set of NO and NC contact closures shall be energized whenever the battery approaches approximately 40% of remaining useful capacity. Contact shall be labeled or marked "Low Batt."

1.3.3

The third set of NO and NC contact closures shall be energized two hours after the unit switches to battery power. Contact shall be labeled or marked "Timer."

1.3.4

The fourth set of NO and NC contact closures shall be energized in the event of inverter/charger failure. Contact shall be labeled or marked "UPS Fail."

1.4

Operating temperature for both the inverter/power transfer relay and manual bypass switch shall be -37 °C to +74 °C (-35 °F to 165 °F).

1.5

Both the Power Transfer Relay and Manual Bypass Switch shall be rated at 240VAC/30 amps, minimum.

1.6

The UPS shall use a temperature-compensated battery charging system. The charging system shall compensate over a range of 2.5 – 4.0 mV/°C or (1.4 – 2.2 mV/°F) per cell.

1.6.1

The temperature sensor shall be external to the inverter/charger unit. The temperature sensor shall come with 2 meters (6.5 ft) of wire.

1.7

Batteries shall not be recharged when battery temperature exceeds $50^{\circ}\text{C} \pm 3^{\circ}\text{C}$ ($122^{\circ}\text{F} \pm 5^{\circ}\text{F}$).

1.8

UPS shall bypass the utility line power whenever the utility line voltage is outside of the following voltage range: 100VAC to 130VAC ($\pm 2\text{VAC}$).

1.9

When utilizing battery power, the UPS output voltage shall be between 110 VAC and 125 VAC, pure sine wave output, $\leq 3\%$ THD, $60\text{Hz} \pm 3\text{Hz}$.

1.10

UPS shall be compatible with Illinois DOT's traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

1.11

When the utility line power has been restored at above $105\text{VAC} \pm 2\text{VAC}$ for more than 30 seconds, the UPS shall dropout of battery backup mode and return to utility line mode.

1.12

When the utility line power has been restored at below $125\text{VAC} \pm 2\text{VAC}$ for more than 30 seconds, the UPS shall dropout of battery backup mode and return to utility line mode.

1.13

UPS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service.

1.14

In the event of inverter/charger failure, the power transfer relay shall revert to the NC state, where utility line power is reconnected to the cabinet.

1.15

Recharge time for the battery, from "protective low-cutoff" to 80% or more of full battery charge capacity, shall not exceed twenty (20) hours.

2.0 MOUNTING/ CONFIGURATION

2.1 GENERAL

2.1.1

Inverter/Charger Unit shall be rack or shelf-mounted.

2.1.2

(Reserved)

2.1.3

All interconnect wiring provided between Power Transfer Relay, Bypass Switch and Cabinet Terminal Service Block shall be no less than 2 meters (6.5 ft) of #10 AWG wire.

2.1.4

Relay contact wiring provided for each set of NO/NC relay contact closure terminals shall be 2 meters (6'6") of #18 AWG wire.

2.1.5

To ensure interchangeability between all UPS manufacturers, UPS Power Transfer Relay and Manual Bypass Switch shall be interconnected with Type IV or Type V NEMA cabinets according to the Department standards.

2.1.6

(Reserved)

2.2 (Reserved)

2.3 BATTERY CABINET

2.3.1

Inverter/Charger, Power Transfer Relay and manually operated Bypass Switch shall fit inside a typical fully equipped Type IV or Type V NEMA Cabinet that houses one NEMA TS 1 or NEMA TS 2 controller.

2.3.2

Batteries shall be housed in a NEMA Standard TS 2 rated cabinet, self supported and mounted on the concrete foundation according to the Department standards. This external battery cabinet shall conform to the IDOT Standard Specifications for the construction and finish of the cabinet.

2.3.3

Batteries shall be mounted on individual shelves for the cabinet housing four (4) batteries and two (2) batteries per shelf for the cabinet housing eight (8) batteries.

2.3.4

Four shelves shall be provided. Each shelf shall support a load of 30 kg (66 lb) minimum for single battery or 60 kg (132 lb) minimum for dual batteries.

2.3.5 (Reserved)

2.3.6

Cabinets housing four (4) batteries shall have nominal outside dimensions of width 356 mm (14 in.), depth 229 mm (9 in.) and height within 1143 mm to 1397 mm (45 in. to 55 in.). Cabinets housing eight (8) batteries shall have nominal outside dimensions of width 711 mm (28 in.) depth 229 mm (9 in.), and height within 1143 mm to 1397 mm (45 in. to 55 in.). Clearance between shelves shall be a minimum of 254 mm (10 in.).

2.3.7

The battery cabinet shall be ventilated through the use of louvered vents, filter, and one thermostatically controlled fan as per NEMA TS 2 specifications.

2.3.8

The battery cabinet fan shall be AC operated from the same line output of the Manual Bypass Switch that supplies power to the Type IV or Type V Cabinet.

2.3.9

The battery cabinet shall have a door opening to the entire cabinet. The door shall be attached to the cabinet through the use of a continuous stainless steel or aluminum piano hinge. The cabinet shall be provided with a main door lock, which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

2.3.10

The UPS with battery cabinet shall come with all bolts, conduits and bushings, gaskets, shelves, and hardware needed for mounting.

3.0 MAINTENANCE, DISPLAYS, CONTROLS AND DIAGNOSTICS

3.1

The UPS shall include a display and /or meter to indicate current battery charge status and conditions.

3.2

The UPS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.

3.3

The UPS shall be equipped with an integral system to prevent battery from destructive discharge and overcharge.

3.4

The UPS and batteries shall be easily replaced with all needed hardware and shall not require any special tools for installation.

3.5

The UPS shall include a resettable front-panel event counter display to indicate the number of times the UPS was activated and a front-panel hour meter to display the total number of hours the unit has operated on battery power.

3.6

Manufacturer shall include two (2) sets of equipment lists, operation and maintenance manuals, and board-level schematic and wiring diagrams of the UPS, and the battery data sheets.

4.0 BATTERY SYSTEM

4.1

Individual batteries shall be 12V type, 65 amp-hour minimum capacity at 20 hours, and shall be easily replaced and commercially available off the shelf.

4.2

Batteries used for UPS shall consist of 4 to 8 batteries with a cumulative minimum rated capacity of 240 amp-hours.

4.3

Batteries shall be deep cycle, completely sealed, prismatic lead-calcium based AGM/VRLA (Absorbed Glass Mat/ Valve Regulated Lead Acid) requiring no maintenance.

4.4

Batteries shall be certified by the manufacturer to operate over a temperature range of – 25°C to +71°C (-13°F to 160°F).

4.5

The batteries shall be provided with appropriate interconnect wiring and corrosion-resistant mounting trays and/or brackets appropriate for the cabinet into which they will be installed.

4.6

Batteries shall indicate maximum recharge data and recharging cycles.

4.7

Battery interconnect wiring shall be via modular harness. Batteries shall be shipped with positive and negative terminals pre-wired with red and black cabling that terminates into a typical power-pole style connector. Harness shall be equipped with mating power-pole style connectors for batteries and a single, insulated plug-in style connection to inverter/charger unit. Harness shall allow batteries to be quickly and easily connected in any order and shall be keyed and wired to ensure proper polarity and circuit configuration.

4.8

Battery terminals shall be covered and insulated so as to prevent accidental shorting.

5.0 QUALITY ASSURANCE

5.1

Each UPS shall be manufactured in accordance with a manufacturer quality assurance (QA) program. The QA program shall include two types of quality assurance: (1) Design quality assurance and (2) Production quality assurance. The production quality assurance shall include statistically controlled routine tests to ensure minimum performance levels of UPS units built to meet this specification and a documented process of how problems are to be resolved.

5.2

QA process and test results documentation shall be kept on file for a minimum period of seven years.

5.3

Battery Backup System designs not satisfying design qualification testing and the production quality assurance testing performance requirements described below shall not be labeled, advertised, or sold as conforming to this specification.

5.4 DESIGN QUALIFICATION TESTING

5.4.1

The manufacturer, or an independent testing lab hired by the manufacturer, shall perform design Qualification Testing on new UPS designs, and when a major design change has been implemented on an existing design. A major design change is defined as a design change (electrical or physical) that changes any of the performance characteristics of the system, or results in a different circuit configuration.

5.4.2

A single unit for each design shall be submitted for Design Qualification Testing.

5.4.2.1

Test units shall be submitted to the Traffic Operations Lab, 1605 Titan Drive, Rantoul, IL 61866, after the manufacturer's testing is complete.

5.4.2.2

Manufacturer's testing data shall be submitted with test units for IDOT's verification of Design Qualification Testing data.

5.4.3 Burn In.

The sample systems shall be energized for a minimum of 5 hours, with full load of 700 watts, at temperatures of +74°C and -37°C (+165°F and -35°F), excluding batteries, before performing any design qualification testing.

5.4.4

Any failure of the UPS, which renders the unit non-compliant with the specification after burn-in, shall be cause for rejection.

5.4.5

For Design Qualification Testing, all specifications will be measured including, but not limited to:

5.4.5.1

Run time while in battery backup mode, at full load.

5.4.5.2

Proper operation of all relay contact closures (“On-Batt”, “Low-Batt”, “Timer” and “UPS-Fail”).

5.4.5.3

Inverter output voltage, frequency, harmonic distortion, and efficiency, when in battery backup mode.

5.4.5.4

All utility mode – battery backup mode transfer voltage levels. See UPS Spec 1.8, 1.11 and 1.12.

5.4.5.5

Power transfer time from loss of utility power to switchover to battery backed inverter power.

5.4.5.6

Backfeed voltage to utility when in battery backup mode.

5.4.5.7

IEEE/ANSI C.62.41 compliance.

5.4.5.8

Battery charging time.

5.4.5.9

Event counter and runtime meter accuracy.

5.5 PRODUCTION QUALITY CONTROL TESTING

5.5.1

Production Quality Control tests shall consist of all of the above listed tests and shall be performed on each new system prior to shipment. Failure to meet requirements of any of these tests shall be cause for rejection. The manufacturer shall retain test results for seven years.

5.5.2

Each UPS shall be given a minimum 100-hour burn-in period to catch any premature failures.

5.5.3

Each system shall be visually inspected for any exterior physical damage or assembly anomalies. Any defects shall be cause for rejection.

5.6 IDOT QUALITY ASSURANCE TESTING

5.6.1

The IDOT will perform random sample testing on all shipments, consistent with ANSI/ASQC Z1.4-1993 Sampling Procedures and Tables for Inspection by Attributes.

5.6.2

Sample testing will normally be completed within 90 days after delivery to the Traffic Operations Laboratory, barring deficiencies in the shipment, which would reset the clock.

5.6.3

All parameters of the specification may be tested on the shipment sample.

5.6.4

The number of units tested (sample size) shall be determined by the quantity in the shipment. The sample size and acceptance or rejection of the shipment shall conform to ANSI/ASQC Z1.4.

6.0 WARRANTY

Manufacturers shall provide a two (2) year factory-repair warranty for parts and labor on the UPS from date of acceptance by the State. Batteries shall be warranted for full replacement for two (2) years from date of purchase. The warranty shall be included in the total bid price of the UPS.

Basis Of Payment:

The above work will be paid for at the contract unit price EACH for TRAFFIC SIGNAL BATTERY BACKUP SYSTEM, which price will be payment in full for all labor, equipment, and materials required to supply, install, configure, and test the system described above, complete.

VIDEO VEHICLE DETECTION SYSTEM

Revised: August 1, 2002

This work shall consist of furnishing, installing and placing into operation a vehicle detection system, which detects vehicles by processing video images and providing detection outputs to a traffic signal controller. This equipment shall meet the NEMA environmental, power and surge ratings as set forth in NEMA TS1 and TS2 Specifications.

Hardware: The machine vision sensors shall be four integrated imaging CCD arrays with optics, high-speed, color, image-processing hardware and a CPU bundled into a sealed enclosure. The environmental enclosure shall be waterproof and dust-tight to NEMA-4 specifications, and shall be pressurized with dry nitrogen to 5 ± 1 psi. The enclosure shall allow the machine vision sensor to operate satisfactorily over an ambient temperature range from -34 degrees C to +60 degrees C while exposed to precipitation as well as direct sunlight. The enclosure shall allow the image sensor horizon to be rotated during field installation. The enclosure shall include a provision at the rear of the enclosure for connection of the factory-fabricated power, communications and video signal cable. Input power to the environmental enclosure shall be 24 VAC/DC and either 50 or 60 Hz. A heater shall be at the front of the enclosure to prevent the formation of ice and condensation in cold weather, as well as to assure proper operation of the lens' iris mechanism. The heater shall not interfere with the operation of the image sensor electronics, and it shall not cause interference with the video signal. The enclosure shall be

light-colored and shall include a sun shield to minimize solar heating and glare. The front edge of the sunshield shall protrude beyond the front edge of the environmental enclosure and shall include provision to divert water flow to the sides of the sunshield. The amount of overhang of the sunshield shall be adjustable to prevent direct sunlight from entering the lens or hitting the faceplate. The total weight of the image sensor in the environmental enclosure with sunshield shall be less than 2.7 kg (6 pounds). When operating in the environmental enclosure with the power, communication and video signal cable connected, the image sensor shall meet FCC class B and CE requirements for electromagnetic interference emissions.

The CCD arrays shall be directly controlled by the CPU, thus providing high video quality for detection that has virtually no noise to degrade detection performance.

The optics and camera electronics shall be directly controlled for optimal illumination for traffic detection. The lens shall be pre-focused at the factory, as required for operation. It shall be possible for the user to focus the lens, as required for operation. The machine vision sensor shall operate at a maximum rate of 30 frames per second when configured for the NTSC (US) color video standard. The machine vision sensor shall process a minimum of twenty detector zones placed anywhere in the field of view of the sensor. The video output shall have the ability to selectively show overlaid graphics indicating the current real-time detection state of each individual detector defined in the video. The sensor output NTSC color video shall be viewed with any compatible video-display device.

Sensor Hardware: The machine vision sensor shall use medium resolution color image sensors as the video source for real-time vehicle detection using either NTSC or PAL formats. As a minimum each image sensor shall produce images with a CCD sensing element with horizontal resolution of at least 500 lines and vertical resolution of at least 350 lines. Images shall be output as video conforming to NTSC or PAL specifications and provide software JPEG video compression with a useable video and resolvable features in the video image when those features have luminance levels as low as 0.1 lux at night. Useable video and resolvable features in the video image shall also be produced when those features have luminance levels as high 10,000 lux during the day.

Useable video and resolvable features in the video image shall be produced when the ratio of the luminance of the resolved features in any single video frame is 300:1. The sensor shall provide direct real-time iris and shutter speed control, be usable for video surveillance, provide an optical filter and appropriate electronic circuitry in the sensor to suppress "blooming" effects at night, and have gamma for the image sensor present at the factory to a value of 1.0.

Sensor Optics: The machine vision sensor shall be equipped with an integrated zoom lens with zoom and focus capabilities that can be changed using either configuration computer software or a hand-held controller.

Functional: The machine vision sensor shall be able to be programmed with a variety of detector types that perform specific functions selectable by software. Detector types shall include stopline detectors capable of providing presence of moving vehicle detection based upon phase status, presence detectors, directional presence, and input detectors. Additionally, phase green or red shall be displayed. The unit shall monitor a programmable contrast detector and apply video loss timing parameters to the output by implementing minimum, maximum, or user defined fixed time recall the assigned phase(s). The detector shall be capable of having Boolean logic applied to multiple detectors or a minimum number of detectors out of a total present, prior to placing a call.

Detector features shall include:

- a. Count detection - outputs traffic volume statistics and generates traffic counts and occupancy.
- b. Presence detection - indicate presence of a vehicle, stopped vehicle, or vehicles traveling in the wrong direction.
- c. Speed detection - provide vehicle counts, speed, length, and classification.
- d. Detector function combines - outputs of multiple detectors via Boolean logic functions.
- e. Label displays - information on the machine vision video output and passes input information to other detectors.
- f. Detector Station - collects and reports traffic data gathered over specified time intervals.
- g. Incident detection - monitor traffic parameters for conditions that indicate an incident has occurred, such as an accident or a stalled vehicle that results in a sudden reduction in roadway capacity or throughput.
- h. Schedulers - define plans that can be used by other detectors to specify different parameters for each time-of-day plan.
- i. Contrast Loss detection - monitor the quality of the video image that the machine vision sensor is processing.
- j. Speed Alarm - generates alarm outputs based on user-defined algorithms using speed.

External Interfaces: The external interfaces to the machine vision sensor shall include a detector port specifically to exchange detector state data with the cabinet interface devices, differential color video output, and 24 VAC/DC power to operate the sensor.

Sensor Field Interface Equipment: A communications panel shall be provided with each machine vision sensor for installation. The communications panel shall provide a terminal block for terminating power and four twisted-pair wiring to the image sensor.

Supervisor Communications Port: There shall be a supervisor communications port to configure and provide general communications. The machine vision sensor shall use an RS-485 multi-drop network protocol to facilitate communications via a network of rack cards to a remote or local PC client/server application. The communications port shall allow the user to update the embedded software with a new software release and interact with a PC client/server application for all of the various detection requests supported by the machine vision sensor. The communications protocol over the supervisor communications port shall be the UDP/IP message packet and routing standard. This protocol shall be used throughout the field network of machine vision sensors, hubs and the host PC server application.

Detector I/O Port: The machine vision sensor detector port shall provide a dedicated, RS-485, half-duplex interface between the machine vision sensor and a detector port master such as a card rack or TS2 mini-hub. The real-time state of phase inputs shall be transmitted to the machine vision sensor. The machine vision sensor shall exchange input and output state data with the detector port master every 100 ms. The communications protocol shall be UDP/IP over the single twisted-pair wiring. A detector port master such as a TS2 mini-hub shall subsequently translate the detection states in an electrically compatible manner to a traffic signal controller:

- (1) The interface card immediately upon receipt of the state change shall apply single pin state outputs and each on or off pulse shall be guaranteed a minimum pulse width of 100 ms.
- (2) Speed outputs from 2 pins shall reflect the true output of the delay proportional to measured speed within ± 1 ms.

Differential Video: The machine vision sensor shall output full motion video using a differential video port in either NTSC or PAL format. The differential video shall be transmitted over a single twisted pair.

Power: The machine vision sensor shall operate on 24 VAC/DC, 50/60 Hz at a maximum of 25 watts. The camera and processor electronics shall consume a maximum of 10 watts. The remaining 15 watts shall support an enclosure heater.

Sensor Operations Log: The machine vision sensor shall maintain a non-volatile operations log, which minimally contains:

- a. Revision numbers for the current machine vision sensor hardware and software components in operation.
- b. Title and comments for the detector configuration.
- c. Date and time the last detector configuration was downloaded to the machine vision sensor.
- d. Date and time the operation log was last cleared.
- e. Date and time communications were opened or closed with the machine vision sensor.
- f. Date and time of last power-up.
- g. Time-stamped, self-diagnosed hardware, and software errors that shall aid in system maintenance and troubleshooting.

Sensor Vehicle Detection Performance: The real time detection performance of the machine vision sensor shall be optimized by following the guidelines for the traffic application including, machine vision sensor mounting location; the number of traffic lanes to monitor; the sizing, placement, and orientation of vehicle detectors; traffic approaching and/or departing from the sensor 's field of view; and minimizing the effects of lane changing maneuvers.

Detection Zone Placement: The video detection system shall provide flexible detection zone placement anywhere and at any orientation within the field of view of the machine vision sensor. Preferred detector configurations shall be detection zones placed across lanes of traffic for optimal count accuracy, detection zones placed parallel to lanes of traffic for optimal presence detection accuracy of moving or stopped vehicles. A single detection zone shall be able to replace one or more conventional detector loops connected in series. Detection zones shall be able to be overlapped for optimal road coverage. In addition, selective groups of detectors shall be able to be logically combined into a single output by using optional delay and extend timing and signal state information. Optimal detection shall be achieved when the machine vision sensor placement provides an unobstructed view of each traffic lane where vehicle detection is required. Obstructions are not limited to fixed objects. Obstruction of the view can also occur when vehicles from a lane nearer to the sensor obscure the view of the roadway of a lane further away from the sensor.

Detection Zone Programming: Placement of detection zones shall be by means of a portable or desktop computer using the Windows 95, 98, Millennium, Windows NT 4.0, or 2000 operating systems, a keyboard, and a mouse. The VGA monitor shall be able to show the detection zones superimposed on images of traffic scenes. The mouse and keyboard shall be used to place, size, and orient detection zones to provide optimal road coverage for vehicle detection; modify detector parameters for site geometry to optimize performance; edit previously defined detector configurations; adjust the detection zone size and placement; add detectors for additional traffic applications; reprogram the sensor for different traffic applications, changes in installation site geometry, or traffic rerouting.

It shall be possible to download detector configurations from the computer to the machine vision sensor; upload the current detector configuration that is running in the machine vision sensor; back up detector configurations by saving them to the computer's removable or fixed disks; perform the above upload, store, and retrieve functions for video snapshots of the machine vision sensors' view.

Optimal Detection: The video detection system shall provide optimal detection of vehicle passage and presence when the machine vision sensor is mounted 30 ft. or higher above the roadway, the image sensor is adjacent to the desired coverage area and the distance to the farthest detection zone locations is not greater than 10 times the mounting height of the machine vision sensor.

The machine vision sensor shall be able to view either approaching or departing traffic or both in the same field of view. The machine vision sensor, when placed at a mounting height that minimizes vehicle image occlusion and equipped with a lens to match the width of the road shall be able to monitor a maximum of 6 to 8 traffic lanes simultaneously.

Detection Zone Operation: The machine vision sensor's real-time detection operation shall be verifiable through the following means:

- a. View the video output of the sensor with any standard video display device (monitor).
- b. The video output of the machine vision sensor (differential twisted pair) shall be capable of selectively transmitting:
 - (1) Camera video only.
 - (2) Analog video overlaid with the current real-time detection state of each detector.
 - (3) Camera video with overlaid, scaled cross-hairs that are used for aiming the sensor (during installation).
 - (4) Individual detectors shall have the option of being hidden.
- c. Electrically monitor assigned contact closure pinouts from a detector port master such as a TS2 Mini-Hub interface card, or Detector Rack interface card. Each pin of an interface card shall have one associated LED output to reflect its output state.
- d. View the associated output LED state on the detector port master:
 - (1) An LED shall be ON when its assigned detector output or signal controller phase input is on.
 - (2) An LED shall be OFF when its assigned detector or signal controller input is off.

Count Detection Performance: Using a machine vision sensor installed within the optimal viewing specifications described above for count station traffic applications the system shall be able to accurately count vehicles with at least 96% accuracy under normal operating conditions (day and night) and at least 93% accuracy under adverse conditions. Adverse conditions are combinations of weather and lighting conditions that result from shadows, fog, rain, snow, etc.

Demand Presence Detection Performance: Using a machine vision sensor installed within the optimal viewing specifications described above for intersection control applications the system shall be able to accurately provide demand presence detection. The demand presence accuracy shall be based on the ability to enable a protected turning movement on an intersection stop line, when a demand exists. The probability of not detecting a vehicle for demand presence shall be less than 1-percent error under all operating conditions. In the presence of adverse conditions, the machine vision sensor shall minimize extraneous (false) protected movement calls to less than 7 %.

Speed Detection Performance: The machine vision sensor shall accurately measure average (arithmetic mean) speed of multiple vehicles with more than 98% accuracy under all operating conditions for approaching and departing traffic. The average speed measurement shall include more than 10 vehicles in the sample to ensure statistical significance. Optimal speed detection performance requires the sensor location to follow the specifications described above for count station traffic applications with the exception that the sensor must be higher than 40 feet. The machine vision sensor shall accurately measure individual vehicle speeds with more than 95% accuracy under all operating conditions for vehicles approaching the sensor (viewing the front end of vehicles), 90% accuracy for vehicles departing from the sensor (viewing the rear end of vehicles).

These specifications shall apply to vehicles that travel through both the count and speed detector pair and shall not include partial detection situations created by lane changing maneuvers.

Sensor Electrical: The video output of the machine vision sensor shall be isolated from earth ground. All video connections from the sensor to the interface panel shall also be isolated from earth ground. The video output, communication, and power stages of the sensor shall include transient protection to prevent damage to the sensor due to voltage transients occurring on the cable leading from the machine vision sensor to other field terminations. Connections for video, communications and power shall be made to the image sensor using a single 18-pin circular metal shell connector (Bendix PT07C-14-18P or equivalent). The mating cable shall use a right-angle shell. The machine vision sensor shall have passed requirements for and received the CE mark. The power to the sensor shall be fused in the controller cabinet.

Auxiliary Equipment: The system shall be supplied with a color 10-inch monitor in the controller cabinet to display a camera field of view with detection areas overlaid. The input to the monitor shall be selectable from any of the cameras in the system via a push button selector device.

Training: The supplier of the video detection system shall provide two days of training to maintenance and engineering personnel in the operation, setup and maintenance of the video detection system.

Basis of Payment: This work will be paid for at the contract unit price each for VIDEO VEHICLE DETECTION SYSTEM, which price shall be payment in full for furnishing, installing, and placing into operation the equipment specified to the satisfaction of the Engineer.

STRINGLINE

From Sta. 1008+50 to Sta. 1020+50, the milling and leveling binder will be controlled by stringline(s) erected, maintained and removed and disposed of by the Contractor.

The cost of providing, erecting, maintaining, removing, disposing of and employing the stringline as the grade control will not be paid for separately but shall be considered as included in the BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH) or LEVELING BINDER, SUPERPAVE pay item involved.

STATUS OF UTILITIES TO BE ADJUSTED

The following utilities are involved in this project. The utility companies have provided the estimated dates.

<u>Name/Address of Utility</u>	<u>Type</u>	<u>Location</u>	<u>Estimated Date of Relocation Completed</u>
Illinois Consolidated Telephone Co	Telephone	Project Limits	To Be Determined
Verizon North Inc.	Telephone	Project Limits	To Be Determined
Ameren CIPS	Gas	Project Limits	To Be Determined
Norris Electric Cooperative	Electricity	Project Limits	To Be Determined
Ameren CIPS	Electricity	Project Limits	To Be Determined
EJ Water Corporation	Water	Project Limits	To Be Determined
Lake Sara Area Water Cooperative, Inc.	Water	Project Limits	To Be Determined
City of Effingham	Water	Project Limits	To Be Determined
City of Effingham	Sewer	Project Limits	To Be Determined
AT&T Media Service	T.V. Cable	Project Limits	To Be Determined
Frontier Communications	Telephone	Project Limits	To Be Determined

The above represents the best information of the Department and is only included for the convenience of the bidder. The applicable provisions of Sections 102, 103, and Articles 105.07, 107.20, 107.31, and 108.02 of the Standard Specification for Road and Bridge Construction shall apply.

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

ENVIRONMENTAL COMMITMENTS

1. In Order to avoid adverse effects by the project on Indiana bats, tree felling from the Wabash River to the east end of the project should be restricted to the dates between September 30 and April 1 of any year, when the bats are not breeding (i.e. not occupying nursery trees).
2. In order to avoid harm to the river during the eastern sand darter-spawning season, any construction activities, which might affect the river (such as in stream work or earth excavation) should be limited to the period between August 1 and June 1 of any year.

3. In order to reduce damage to the Little Wabash River, the Standard Specifications for erosion and sediment control should be strictly adhered to.
4. Strictly apply erosion control measures (with daily inspections) to avoid sediment from entering the river.
5. The operation of heavy equipment in the river should be avoided or minimized.
6. In order to avoid infestation of the Little Wabash River with zebra mussels, the Contractor shall comply with and submit the enclosed Contractor Certification Statement regarding this issue.



Contractor Certification Statement

This certification statement is a part of the documentation for the project described below.

Route: _____ Marked: _____
Section: _____ Project No. _____
County: _____

I certify that I understand the terms of and comply with the special provision stated below.

Special Provision: In order to avoid infestation of the Little Wabash River with zebra mussels, include a special provision in the contract that the contractor give written certification that (1) all equipment to be used in the river has never been in zebra mussel infested waters (such as the Ohio, Illinois, or Mississippi Rivers, or Lake Michigan), or (2) if it has, it has been completely dry for at least 21 days (including bilges, wells, or other parts of the equipment that could hold moisture, or clumps of weeds that may have become stuck to the equipment) and has been inspected for zebra mussel (see attached) adults and juveniles (which can be microscopic, giving the equipment a gritty feeling) prior to entering the Little Wabash River, or (3) as the least desirable option, has had all visible vegetation removed from parts that were in the water, and has been appropriately cleaned (e.g. with bleach or a hot pressure spray of at least 140 F for at least 5 minutes), and has been inspected for zebra mussel adults and juveniles prior to entering the River. "Equipment" includes working platform, as well as boats, cranes, construction vehicles, etc.

Signature _____ Date _____

Title _____

Name of Firm _____

Street Address _____

City _____
State _____

Zip Code _____

Telephone Number _____

cc: District

Resident Engineer
Bureau of Design & Environment (Attn: Biological Resources Unit)

GRANULAR SUBGRADE REPLACEMENT

This work consists of the removal and replacement of unsuitable soils beneath proposed pavement and concrete or asphalt shoulders. This work shall be done as shown on the plans or as directed by the Engineer

Materials shall meet the requirements of the following Articles of the Standard Specifications.

Item	Article
Cap – CA06	1004.04
Coarse Aggregate	1004.01 *

* Except coarse aggregate quality shall be as directed by the Engineer.

The gradation of Coarse Aggregate shall be selected based on the following table:

Coarse Aggregate Layer Thickness	Coarse Aggregate Gradation	Minimum Cap Thickness
1 ft. or less	CA06	N/A
Greater than 1 ft to 4 ft	CA02 **	6 inches
Greater than 4 ft. =	Consult District Geotechnical Engineer	6 inches

** Shall have <6% passing the #200 sieve.

Unsuitable soil shall be excavated according to Article 202.03 of the Standard Specifications. Coarse Aggregate shall be placed following the excavation of the unsuitable soil. Construction of the Coarse Aggregate layers shall be according to Article 311 of the Standard Specifications, Sub base Granular Material Ty B. Coarse Aggregate and cap shall have a minimum CBR of 80.

This work shall be measured and paid for at the contract unit price per cubic yard for GRANULAR SUBGRADE REPLACEMENT and per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL.

EARTH EXCAVATION (SPECIAL)

This work shall consist of the excavation required in conjunction with the construction of the Soil Nailed Wall from Lt. Sta. 1026+03 to Lt. Sta. 1033+86. "Top down" construction methods, with benching at each tier, will be utilized for this excavation and construction.

All excavation will be done under the complete direction of the Soil Nailed Wall Contractor and in accordance with Section 202 of the Standard Specifications. Excavation may be utilized in embankment in accordance with Section 205 of the Standard Specifications.

EARTH EXCAVATION (SPECIAL) shall be measured in place and paid for at the contract unit price per CUBIC YARD for EARTH EXCAVATION (SPECIAL). All materials, equipment, and labor necessary to complete this work as specified above and as shown in the plans will be included in the contract unit price. No additional compensation shall be allowed.

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

This work consists of the removal and disposal of unsuitable materials as located on the plans and as directed by the Engineer.

This work shall be performed in accordance with applicable portions of Section 202 of the Standard Specifications.

Removal and Disposal of Unsuitable Material will be measured for payment and paid for in accordance with Section 202 of the Standard Specifications.

EARTH EXCAVATION FOR EROSION CONTROL

This work shall consist of constructing sediment basins at the locations shown in the plans.

All excavation shall be in accordance with Section 202 of the Standard Specifications. The sediment basins shall be in conformance with Highway Standard 280001, of the size and depth specified in the plans. The outlet type shall be as directed by the Engineer and shall be included in the cost of EARTH EXCAVATION FOR EROSION CONTROL. No additional compensation shall be allowed.

EARTH EXCAVATION FOR EROSION CONTROL shall be measured in place and paid for at the contract unit price per CUBIC YARD for EARTH EXCAVATION FOR EROSION CONTROL. All materials, equipment, and labor necessary to complete this work as specified above and as shown in the plans will be included in the contract unit price.

The Contractor shall be responsible for removing accumulated silt anytime the basins become 75% filled throughout the duration of the project. The cost of this removal shall be included in the unit price for EARTH EXCAVATION FOR EROSION CONTROL.

PIPE DRAINS, 4"

This work shall be in accordance with Section 601 of the Standard Specifications except the backfill shall be in accordance with the Special Provision for Segmental Concrete Block Wall.

PIPE UNDERDRAIN, SPECIAL

This work shall be in accordance with Article 601.04(e) of the Standard Specifications. This work will be measured in accordance with Article 601.07 of the Standard Specifications. This work will be paid for in accordance with Article 601.08 of the Standard Specifications.

PIPE UNDERDRAIN, FABRIC LINED TRENCH

This work shall be in accordance with Section 601 of the Standard Specifications.

The trench shall be lined with fabric conforming to Article 1080.01 of the Standard Specifications. The cost of furnishing and installing the fabric will be included in the unit price of PIPE UNDERDRAIN, FABRIC LINED TRENCH.

This work will be measured for payment in feet in place. This work will be paid for at the contract unit price per FOOT for PIPE UNDERDRAIN, FABRIC LINED TRENCH, of the size indicated, which price shall include all labor and materials, including excavation and backfill.

PIPE UNDERDRAIN REMOVAL

This work shall consist of removing existing pipe underdrains at locations shown on the plans.

All work shall be in accordance with Article 551.02. Disposal of materials shall be in accordance with Article 202.03. Trenches resulting from the removal of pipe underdrain shall be backfilled according to the applicable requirements of Article 550.07.

This work will be measured in Lineal Feet except the pipe underdrains behind the existing modular retaining walls will not be measured but will be included in the cost of RETAINING WALL REMOVAL.

This work shall be paid for at the contract unit price per FOOT for PIPE UNDERDRAIN REMOVAL which price shall include removal, disposal of the material, and backfilling as necessary.

VALVE BOXES TO BE RECONSTRUCTED

This work shall consist of the reconstruction of existing water valve box as shown on the plans or as directed by the Engineer.

The reconstruction of the water valve box shall be performed as prescribed by the local water authority having jurisdiction and, in the absence of a local authority, the latest edition of Standard Specifications for Water and Sewer Main Construction in Illinois.

This work will be measured and paid for at the contract unit price EACH for VALVE BOXES TO BE RECONSTRUCTED, which price shall include all labor, equipment, and materials and no additional compensation will be allowed.

REMOVE INLET BOX

This work will consist of the removal and disposal of existing inlet boxes at the locations specified in the plans. Removal shall include pipe drain, end section, thrust block and headwall, when present. Removal shall be in accordance with Section 605.05 of the Standard Specifications.

This work will be measured and paid for at the contract unit price EACH for REMOVE INLET BOX, which price shall include complete removal, disposal and backfilling as necessary.

STEEL PLATE BEAM GUARDRAIL TYPE A (SPECIAL)

This work shall consist of constructing the curved guardrail as located and shown on the drawings.

This work shall be constructed in accordance with Section 630 of the Standard Specifications and the "Curved Guardrail Detail" shown in the plans.

This work will be measured in accordance with Article 630.07. This work will be paid for at the contract unit price per FOOT for STEEL PLATE BEAM GUARD RAIL TYPE A, (SPECIAL) which price shall include a complete curved guardrail in place as shown on the drawings, including the end shoes if indicated.

FURNISHING AND INSTALLING PROPERTY MARKERS

Property markers and section corners shown on the plans that are to be disturbed shall be reset by a Registered Professional Land Surveyor. The land surveyor shall document the location of the existing markers prior to their removal and set them in their former location after the area has been constructed to its final contours. A monument record shall be re-recorded in the appropriate county court house for all government corners in accordance with Illinois Statutes, Chapter 765 ILCS Section 220 "Land Survey Monuments Act".

The land surveyor shall furnish and install a 5/8 inch diameter by 30 inch long reinforcement and a 1-7/8 inch minimum diameter flat top cap. The cap shall be a corrosion-resistant aluminum survey cap of a design compatible with the reinforcement bar furnished, for a solid, tight fit after installation. The cap shall be marked with the words "RESET CORNER" OR "RESET SECTION CORNER" as appropriate and shall also display the license number of the land surveyor. For markers falling in paved surfaces the pins and caps shall be installed in a hole cored into the paved surface. The cap shall be recessed below the surface and grouted in to produce a watertight seal.

This work shall be paid for in accordance with the contract unit price per each for FURNISHING AND INSTALLING PROPERTY MARKERS, which price shall include hiring the Registered Professional Land Surveyor, and providing the labor and equipment necessary to install the markers.

RELOCATE EXISTING MAILBOX

This work shall consist of removing mailboxes as specified in the plans and erecting mailboxes at their permanent positions. The permanent position of each mailbox relative to an adjacent entrance shall be determined by Highway Standard 406201 or by the Engineer.

The Contractor may be directed to erect the mailbox at a temporary location prior to erecting at the permanent location. The Contractor will be paid for each separate removal and re-erection, whether to a temporary or permanent position.

The Contractor shall replace, at the Contractor's expense, any mailbox or post which has been damaged by the Contractor's operation.

This work shall be measured and paid for at the contract unit price EACH for RELOCATE EXISTING MAILBOX, which price shall include one removal and one re-erection.

REMOVE EXISTING RIGHT-OF-WAY MARKERS

This work shall consist of removing existing right-of-way markers at locations shown on the plans.

Disposal of materials shall be in accordance with Article 202.03 of the Standard Specifications.

This work shall be measured and paid for at the contract unit price EACH for REMOVE EXISTING RIGHT-OF-WAY MARKERS, which price shall include removal, disposal of the material, and all excavation and backfill as required.

POST MOUNTED FLASHING BEACON INSTALLATION

This work shall consist of furnishing and installing a post mounted flashing beacon installation, in accordance with Section 1078 of the Standard Specifications except as described herein.

All indications shall be light emitting diodes (LED's) instead of incandescent lamps, and shall conform fully to the "Interim Purchase Specifications of the Institute of Transportation Engineers (ITE) for LED Vehicle Traffic Signal Modules" published July 1998, or applicable successive ITE specifications.

The beacon shall be interconnected to the traffic signal controller such that the beacon is energized continuously. All modifications, modules, controllers required to operate the flashing beacon shall be considered included in the bid price EACH for POST MOUNTED FLASHING BEACON INSTALLATION, and no additional compensation will be allowed.

This work will be paid for at the contract unit price per EACH for POST MOUNTED FLASHING BEACON INSTALLATION.

FILLING EXISTING CULVERTS

This work consists of the filling of existing culverts with Controlled Low-Strength Material (CLSM) at locations shown on the plans. The work shall be in accordance with Recurring Special Provision 24.

Culverts to be filled shall be bulkheaded at each end of the culvert. The culvert shall be vented at the upper end. CLSM shall be placed from the lower end to the upper end until filled. The bulkheads shall be removed and the ends backfilled when the CLSM has cured to the satisfaction of the Engineer.

This work shall be measured for payment in place, and the volume of fill computed in CUBIC YARDS. This work shall be paid for at the contract unit price per CUBIC YARD for FILLING EXISTING CULVERTS, which price shall include all labor and material necessary for bulkheading the existing culverts, constructing vents, placing the CLSM and backfilling.

PILLAR REMOVAL

This work shall consist of removing existing concrete pillars at locations shown on the plans.

Disposal of materials shall be in accordance with Article 202.03 of the Standard Specifications.

This work shall be measured and paid for at the contract unit price EACH for PILLAR REMOVAL, which price shall include removal, disposal of the material, and all required excavation and backfilling.

BRICK WALL REMOVAL

This work consists of the removal of the existing decorative brick walls as shown in the plans. Removal shall include entire structure, including buried portions.

Disposal shall be according to the requirements of Article 202.03

Removal of any masonry coping stones, attached signage, or other appurtenances will be included in the unit price.

This work will be measured in place in lineal feet along the ground line and paid for at the contract unit price per FOOT, for BRICK WALL REMOVAL, which price shall include removal, disposal of the material, and all required excavation and backfilling.

RETAINING WALL REMOVAL

This work consists of the removal of the existing concrete block modular retaining wall as shown in the plans. Removal shall include entire structure, including buried portions.

Disposal shall be according to the requirements of Article 202.03

Removal of any pipe underdrain behind the existing modular retaining wall shall be included in the cost of RETAINING WALL REMOVAL.

This work will be measured for payment in place and paid for at the contract unit price per SQUARE FOOT for RETAINING WALL REMOVAL, which price shall include removal, disposal of the material, and all required excavation and backfilling.

BITUMINOUS SHOULDER REMOVAL

This work shall consist of removing the existing bituminous shoulders at locations shown on the plans. The estimated existing bituminous thickness is shown in the typical sections.

All work shall be in accordance with Article 440.02. Disposal of all materials shall be in accordance with Article 440.06 of the Standard Specifications.

This work shall be measured in place and paid for at the contract unit price per SQUARE YARD for BITUMINOUS SHOULDER REMOVAL which price shall include removal, disposal of the material, and backfilling as necessary.

GUTTER OUTLET REMOVAL

At locations noted on the plans, the existing gutter outlets shall be removed and disposed of in accordance with Section 440 of the Standard Specifications.

The Contractor shall exercise care not to damage the adjacent existing pavement during removal operations; any damage shall be repaired by the Contractor at his or her expense.

This work will be paid for at the contract unit price EACH for GUTTER OUTLET REMOVAL, which price shall include payment for the removal of the concrete structure, grate and pipe within the limits shown on the plans, and the satisfactory disposal of the materials.

ISLAND REMOVAL

Remove existing concrete island at the locations shown on the plans. This work shall include the removal of island surfaces and the mountable curb. Removals shall include entire structure, including buried portions. Removals to be in accordance with Article 440.02. Disposal to be in accordance with Article 440.06.

This work shall be measured for payment in place and paid for at the contract unit price per SQUARE FEET for ISLAND REMOVAL, which price shall include removal and disposal of the island surface and mountable curb along with backfilling as necessary.

PORTLAND CEMENT CONCRETE SHOULDER REMOVAL

This work shall consist of removing the existing Portland cement concrete shoulders at locations shown on the plans. The existing concrete thickness is shown in the typical sections.

All work shall be in accordance with Article 440.05. If tie bars exist between the portland cement concrete shoulder and the pavement, they should be removed flush with the edge of pavement and disposed of. Disposal of all materials shall be in accordance with Article 440.06 of the Standard Specifications.

This work shall be measured in place and the area computed in square yards. This work shall be paid for at the contract unit price per SQUARE YARD for PORTLAND CEMENT CONCRETE SHOULDER REMOVAL which price shall include removal, disposal of the material, and backfilling as necessary.

PORTLAND CEMENT CONCRETE SHOULDER

This work shall be in accordance with Section 483 of the Standard Specifications.

Contraction and expansion joints in portland cement concrete shoulders shall be extensions of contraction and expansion joints in the adjacent concrete gutter.

This work will be measured for payment in place and the area computed in SQUARE YARDS. This work will be paid for at the contract unit price per SQUARE YARD for PORTLAND CEMENT CONCRETE SHOULDERS of the thickness specified.

REMOVE EXISTING CULVERTS

This work will consist of the removal and disposal of existing entrance pipe culverts and side road pipe culverts at the locations specified in the plans.

The existing culverts including end sections or concrete, wood, metal, or other headwalls when present, shall be removed and disposed of according to Section 501 of the Standard Specifications.

This work will be measured on an "each" basis.

This work will be paid for at the contract unit price EACH for REMOVE EXISTING CULVERTS, which price shall include removal and disposal of the culverts, and end sections or headwalls if present.

PREFORMED JOINT FILLER

This work consists of furnishing and installing preformed joint filler of the thickness specified and at locations shown on plans.

All work shall be in accordance with Section 503 of the Standard Specifications.

This work shall be measured for payment in place paid for at the contract unit price per FOOT for PREFORMED JOINT FILLER, which price shall include all labor and material.

TIE BARS

This work shall be in accordance with Section 508 of the Standard Specifications except that tie bars shall measured and paid for at the contract unit price EACH for TIE BARS.

STORM SEWER, RUBBER GASKET

This item is included to satisfy the EPA requirements for vertical separation of water mains and service lines from sewers as outlined in Section 41-2.01C and 41.2.01D of the Standard Specifications for Water and Sewer Main Construction in Illinois.

This work shall consist of construction of storm sewers with the necessary fittings in accordance with Section 550 of the Standard Specifications with the following exception:

At locations shown on the plans, the contractor shall furnish and install reinforced concrete pipe of the size, class, and type indicated with O ring rubber gasket joints consisting of a compressive type ring in accordance with ASTM Specification C-361. Pressure testing shall not be required as part of this construction.

This work will be measured and paid for at the contract unit price per lineal foot for STORM SEWER, RUBBER GASKET of the type and size indicated, which price shall be payment in full for the work described herein.

STORM SEWER TO BE FILLED

This work consists of the filling of existing storm sewers with Controlled Low-Strength Material (CLSM) at locations shown on the plans. The work shall be in accordance with Recurring Special Provision 24.

Storm sewers to be filled shall be bulkheaded at each end. The storm sewer shall be vented at the upper end. CLSM shall be placed from the lower end to the upper end until filled. The bulkheads shall be removed and the ends backfilled when the CLSM has cured to the satisfaction of the Engineer.

This work shall be measured for payment in place, and the volume of fill computed in CUBIC YARDS. This work shall be paid for at the contract unit price per CUBIC YARD for STORM SEWER TO BE FILLED, which price shall include all labor and material necessary for bulkheading the existing storm sewer, constructing vents, placing the CLSM and backfilling.

FLARED END SECTION REMOVAL

This work consists of the removal of existing concrete pipe culvert flared end sections at locations shown on the plans. Removal shall include entire end section, including buried portions. Work to be in accordance with Article 440.02. Disposal to be in accordance with Article 440.06.

This work shall be paid for at the contract unit price EACH for FLARED END SECTION REMOVAL, which price shall include removal, disposal of the material and backfilling as necessary.

GEOCOMPOSITE WALL DRAIN

This work shall be in accordance with Section 591 of the Standard Specifications, with the following exceptions:

- 1) The geocomposite wall drain shall be furnished in 1'-6" wide strips
- 2) The strips shall be applied vertically, between each column of soil nails, to provide positive drainage behind the permanent shotcrete wall
- 3) Each strip shall be connected to a weep hole at the base of each tier as shown on the plans.
- 4) The spacing of the strips shall not exceed 5'-0" center to center

The geocomposite wall drain will be measured in accordance with Article 591.04. The geocomposite wall drain will be paid for in accordance with Article 591.05.

SOIL NAILED WALL

Description. This work shall consist of preparing the design, furnishing the materials, conducting nail testing and constructing the tiered soil nailed retaining wall to the lines, grades and dimensions shown in the contract plans and as directed by the Engineer.

General. The soil nailed wall installation consists of making limited excavations to create near vertical soil faces on which geocomposite wall drains are placed and a reinforced shotcrete facing is applied. Soil nails are installed as the excavation approaches their locations and then connected to the shotcrete facing. Each subsequent excavation layer requires the splicing and extension of the geocomposite wall drains and shotcrete reinforcement, promptly followed by the application of shotcrete and installation of soil nails as required. As the final excavation lift nears completion, the geocomposite wall drains are connected to a pipe underdrain or series weep holes as shown on the plans. The soil nails shall have sufficient strength, quantity and pullout resistance, beyond the failure surface, as required by design. The material, fabrication and construction shall comply with this Special Provision and the requirements specified by the approved subcontractor in their approved shop drawings.

Submittals. The Contractor shall submit the following:

- (a) Qualifications. At the time of the preconstruction conference, the Contractor shall provide the following documentation to the Engineer for approval:
 - (1) A list containing at least three (3) projects completed within the three (3) years prior to this project's bid date which the sub-contractor performing this work has installed soil nailed walls of similar retained heights and in comparable subsurface 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, the soils conditions, maximum height and total square footage of wall face.
 - (2) Name and experience record of the engineer responsible for soil nailed wall design, the on site installation supervisor, the drill operator, and shotcrete nozzle operator who will be assigned to this project. The engineer and on site installation supervisor shall each have a minimum of 3 years experience on at least 3 projects involving the design and installation of soil nailed walls while the drill operator and shotcrete operator shall have at least 1 year experience on at least one project.

- (b) Shop Drawings and Calculations. The contractor shall submit complete design calculations and shop drawings to the Department for review and approval no later than 90 days prior to beginning construction of the wall. All submittals shall be sealed by a Illinois Licensed Structural Engineer and shall include all details, dimensions, quantities and cross sections necessary to construct the wall and shall include, but not be limited to, the following items:
- (1) Plan, elevation and cross section sheet(s) for each wall showing the following:
 - (a). A plan view of the wall indicating the offsets from the construction centerline to the face of the wall at all changes in horizontal alignment. The plan view shall show the soil nail type, spacing, length, orientation, and locations where changes in nail length and/or size occur if not shown on the elevation view. The centerline shall be shown for all drainage structures or pipes behind or passing through and/or under the wall.
 - (b). An elevation view of the wall indicating the elevations of the top and bottom of the tiers as shown on the contract plans. This view shall show the locations of all soil nails by elevations and stations (or by vertical and horizontal spacing dimensions relative to the individual tier stations and elevations). The soil nail type, spacing, length, orientation, and locations where changes in nail length and/or size occur must be designated if not indicated on the plan view. The locations of the verification and proof test nails shall be indicated.
 - (c). Typical wall cross section(s) showing the soil nail inclination angle, vertical spacing, geocomposite and drainage outlet system, and shotcrete, and their relationship to the right-of-way limits, existing utilities or substructures as well as existing or proposed ground surfaces.
 - (d). Typical longitudinal and cross section of production nail indicating the drilled diameter, nail elements including bar type and size, epoxy coating, encapsulation, grout stages and centralizer locations.
 - (e). Longitudinal section(s) of the verification and proof test nails with their bonded and unbonded lengths indicated. Details for the nail testing apparatus including the reaction system for distribution test load pressures to the excavation surface, appropriate test nail bar sizes, reaction plate size, load cell, deflection dial gages, pressure gauge and jacking system to be used.
 - (2) Nail head anchorage details indicating bearing dimensions and thickness, bar hole diameter, shear stud diameter, length and locations, nuts and washers, and encapsulation connection to plate.
 - (3) All details for the geocomposite wall drain, drain splice detail, protection from shotcrete or soil intrusions and water outlet system.
 - (4) Complete layout of the shotcrete and reinforcing steel including expansion and construction joints.
 - (5) Any unique details for the soil nail installation around appurtenances located behind, on top of, or passing through the soil nail wall volume such as foundation elements, utilities etc. shall be clearly indicated.

- (6) All general notes, material strengths, a sequence of wall construction, description of the nail assembly, drilling methods, grouting system, and equipment proposed for construction
- (7) Design calculations to support the selection of the soil nail wall elements shown in the shop drawings. The calculations as a minimum would address the following:
 - (a) Geotechnical calculations supporting the proposed nail lengths, drilled diameter, spacings, inclination angles, ultimate and allowable soil/grout bond stress. Local and global limit equilibrium stability analysis shall be provided at each design section for critical construction stages and long term conditions.
 - (b) Structural calculations supporting the selection of the nail head anchorage element sizes including plate, shear studs, nuts, bar as well as the reinforced shotcrete.
 - (c) Research data, field testing and resources used to select the soils parameters, nail capacity, and design mythology.

The initial submittal shall include three sets of shop drawings and one set of calculations. One set of drawings will be returned to the Contractor with any corrections indicated. After approval, the Contractor shall furnish the Engineer with eight sets of corrected plan prints and one mylar set of plans for distribution by the Department. No work or ordering of materials for the structure shall be done until the submittal has been approved by the Engineer.

Materials. Materials for soil nail walls shall satisfy the following requirements:

- (a) Nails. Nails shall be threaded, epoxy coated, deformed steel bars conforming to AASHTO M 31, grade 60 or 75, ASTM A722 for grade 150. The bars shall be supplied without welds or splices unless approved by the Engineer. Threading may be continuous spiral deformed ribbing provided by the bar deformations (e.g. Dywidag or Williams continuous threadbars) or may be cut into a reinforcing bar. If threads are cut into a reinforcing bar, the next larger bar number designation from that specified in the approved design shall be used. Certified mill test results indicating the guaranteed ultimate tensile strength, yield strength, elongation, and composition of the nail steel shall be provided to the engineer for verification.
- (b) Encapsulation. Minimum 1mm (.04 inch) thick corrugated, HDPE tube conforming to AASHTO M252 or corrugated PVC tube conforming to ASTM D1784, Class 13464-B.
- (c) Epoxy Coatings. The epoxy coating and application thereof shall conform to Article 1006.10(b)(2) of the Standard Specifications.
- (d) Steel Welded Wire Fabric. Welded Wire Mesh shall conform to AASHTO M-55.
- (e) Geocomposite Wall Drain. The geocomposite wall drain shall conform to Section 591 of the Standard Specifications.
- (f) Shotcrete. Shotcrete may be either dry or wet mix. Shotcrete shall be proportioned to produce a mix capable of attaining 1,500 psi compressive strength in 3 days and 3,000 psi in 28 days. The shotcrete mix design and method of placement proposed for use at the

jobsite shall be submitted by the Contractor at least 14 calendar days prior to beginning shotcrete placement. No admixture shall be used without the permission of the Engineer. If admixtures are used to entrain air, to reduce water-cement ratio, to retard or accelerate setting time, or to accelerate the development of strength, the admixtures shall be used at the rate specified by the manufacturer and approved by the Engineer.

- (g) Grout. Provide a neat cement or a sand cement grout to be used in soil nail anchorage consisting of a pumpable mixture capable of attaining 1,500 psi compressive strength in 3 days and 3,000 psi in 28 days per AASHTO T106. Chemical additives which control bleed, improve flowability, reduce water content and retard set in the grout are to be used only when approved in writing by the Engineer. Admixtures shall be compatible with the grout and mixed in accordance with the manufacturer's recommendations. Accelerators and expansive additives are not permitted. Grout shall be tested in accordance with AASHTO T106 at a frequency of no less than one test for every 40 cubic meters of grout placed. Grout cubes shall promptly be provided to the department for testing.
- (h) Nail head anchorage elements. The bearing plates, nuts, shear studs and associated hardware shall conform to the applicable portions of Section 505 of the Standard Specifications. Electrostatically apply epoxy to bearing plates, hardware, and nuts in accordance with AASHTO M 284. Minimum epoxy thickness shall be 12 mils.
- (i) Centralizers. Centralizers shall be fabricated from Schedule 40 PVC pipe or tube, steel, or material not detrimental to the nail steel (wood shall not be used).
- (j) Bitumen. The bitumen coating for protecting rods, nuts, plates, washers, etc. from corrosion shall conform to applicable portions of Article 503.18.

Design Criteria. The design shall in accordance with the Federal Highway Administration (FHWA) document "Geotechnical Engineering Circular No. 7 Soil Nail Walls" publication number FHWA-IF-03-017, dated March 2003 except as modified herein. The wall supplier shall be responsible for all slope stability aspects of the wall design and shall supply the Department with computations for each designed wall section.

Local and global limit equilibrium stability analysis for critical construction stages and for long term shall be conducted at each design section. A minimum factor of safety against slope stability failure of 1.5 shall be used in the design. The soil/grout bond stress used shall have a minimum factor of two times the ultimate value indicated in the nail verification testing.

Nails shall not extend beyond the right-of-way or easement limits shown on the Plans.

External loads, such as those applied through structure foundations, from traffic or railroads, slope surcharge etc., shall be accounted for in the stability design. The presence of all appurtenances behind, in front of, mounted upon, or passing through the wall volume such as drainage structures, utilities, structure foundation elements or other items shall be accounted for in the design of the wall.

Centralizers shall be spaced no further than 8 ft apart with the last centralizers located 1.5 ft from each end of the nail. They shall be sized to position the nail bar within 1 inch of the center of the drill hole while allowing tremie pipe insertion to the bottom of the drill hole and permit grout to freely flow up the drill hole.

Construction Requirements.

General. The soil nailed wall contractor shall direct the overall construction sequence according to the approved shop drawings. If upon excavation, the stability of the wall appears to be in jeopardy, the soil nailed wall contractor may deviate from the approved construction sequence and may limit the area of wall excavated, drill nails through soil berms, or backfill unstable portions of the wall and notify the Engineer.

Excavation. The excavation downward shall proceed in stages, exposing the minimum amount of soil or rock face which will allow the practical and expeditious application of the initial layer of shotcrete and the installation of soil nails while assuring stability of the excavated face and minimizing ground movements. Grade the excavation such that both surface and ground water passing through geocomposite wall drain will flow away from the wall face. Temporary weep holes or other method shall be employed to ensure that no build up of hydrostatic pressure occurs in geocomposite wall drain during construction. Excavation of the next-lower lift or tier shall not proceed until nail installation, reinforced shotcrete placement and cure, bearing plate and nut attachment and testing have been completed in the current lift.

Geocomposite Wall Drain. The geocomposite wall drain shall be installed according to Section 591 except where otherwise directed on the plans and shop drawings. The drain shall be installed with the pervious (fabric) side placed against the soil and kept on a continuous roll or installed in sections and spliced in such a way as to insure unimpeded water flow, and prevent soil or shotcrete from entering the drain core.

Shotcrete. After each stage is cut, in anticipation of shotcreting, the surface shall be cleaned of all loose material, mud, and other foreign matter that will prevent bond of shotcrete. Dampening the application surfaces may be required before shotcreting. Install approved depth gages to verify shotcrete thickness on 6ft. max. spacing vertically and horizontally. Previously placed shotcrete shall not be re-covered until it has been allowed to develop its initial set. Then, all laitance and rebound must be removed by brooming or scraping. Remove curing compound placed on previously placed shotcrete surfaces by sandblasting.

Firmly position the wire fabric to prevent vibration while the shotcrete is being applied. Lap mesh one-and-a-half squares in both directions. A minimum cover of 2 inches of shotcrete shall be required.

The shotcrete shall be applied from the bottom up to prevent accumulation of rebound on the surface still to be covered. Shotcrete shall emerge from the nozzle in a steady uninterrupted flow and provide suitable means to screen the nozzle stream if wind or air currents cause separation of the stream during placement.

The contractor shall check for hollow areas by sounding with a hammer. Use approved methods to correct deficient areas. Repair surface defects as soon as possible after initial placement of the shotcrete. All shotcrete which lacks uniformity, exhibits segregation, honeycombing, or lamination, or which contains any dry patches, slugs, voids, or sand pockets shall be removed and replaced with fresh shotcrete.

Nail Installation. Only the drilling, installation, and grouting methods which have been successfully verification-tested shall be used. Changes in the procedure will require additional testing at the Contractor's expense prior to approval.

- (a) Handling. Nails shall be handled and stored in a manner to avoid damage or corrosion. The nail steel shall be protected if welding is to be performed in the vicinity. Grounding of welding leads to the nail steel will not be allowed. Nail steel shall be protected from dirt, rust, abrasions, cuts, weld splatter and deleterious substances which might cause material rejection.
- (b) Drilling. Holes shall be drilled without the loss of ground or subsidence and may require the use of casing or other installation methods. Small amounts of water may be used in conjunction with air to aid the drilling process. After drilling, the nail shall be installed and fully grouted before placing the reinforced shotcrete. Subject to the Engineer's approval, the Contractor may place the initial reinforced shotcrete layer prior to drilling nail holes by placing blackouts at the nail locations.
- (c) Placement tolerance. Nail head location deviation from plan must not exceed 6 inches any direction. Nail inclination deviation from plan must not exceed 3 degrees in any direction. Location tolerances are applicable to each nail and not accumulative over large wall areas. Center nail bars within 1 inch of the center of the drill hole.

Soil nails which do not satisfy the specified tolerances will be replaced at no additional cost. Backfill abandoned nail drill holes with tremied grout. Nails which encounter unanticipated obstructions during drilling shall be relocated, as approved by the Engineer. Cost of drilling and backfilling drillholes abandoned due to unanticipated obstructions will be paid for according to Article 109.04 of the Standard Specifications.

- (d) Grouting. Grout equipment shall produce a uniformly mixed grout free of lumps and undispersed cement, and be capable of continuously agitating the mix. Use a positive displacement grout pump equipped with a pressure gauge which can measure at least twice the intended grout pressure. Size the grouting equipment to enable the entire nail to be grouted in one continuous operation. Place the grout within 60 minutes after mixing or within the time recommended by the admixture manufacturer, if admixtures are used.

Each drill hole will be grouted within 2 hours of completion of drilling, unless otherwise approved by the Engineer. Inject the grout at the lowest point of each drill hole through a grout tube, casing, hollow-stem auger, or drill rods. Keep the outlet end of the conduit delivering the grout below the surface of the grout as the conduit is withdrawn to prevent the creation of voids. Completely fill the drill hole in one continuous operation. Cold joints in the grout column are not allowed except at the top of the test bond length of verification and proof tested production nails. At the Contractor's option, the grout tube may remain in the hole provided it is filled with grout. Grouting before insertion of the nail is allowed provided the nail bar is immediately inserted through the grout to the specified length without difficulty.

During casing removal for drill holes advanced by either cased or hollow-stem auger methods, maintain sufficient grout level within the casing to offset the external groundwater/soil pressure and prevent hole caving. Maintain grout head or grout pressures sufficient to ensure that the drill hole will be completely filled with grout and to prevent unstable soil or groundwater from contaminating or diluting the grout. Record the grout pressures for soil nails installed using pressure grouting techniques. Control grout pressures to prevent excessive ground heave or fracturing. Nail grout shall set a minimum of 72 hours unless it has attained the specified 3-day compressive strength prior to testing.

- (e) Nail head anchorage. The bearing plate and nut shall be attached as shown on the approved shop drawings. The plate shall be seated on a wet grout pad of a pasty consistency similar to that of mortar for bricklaying. The nut shall then be sufficiently tightened to achieve full bearing on the surface behind the plate. After the shotcrete and grout have set a minimum of 24 hours and prior to excavation of the next lift, the nut shall be wrench tightened 100 ft-lbs of torque. Any visible damage to the corrosion protection on the exposed portions of the nail bar, bearing plate, or nut or shear studs shall be field repaired using manufacturer recommended epoxy kits. Hand tool clean nail head anchorages and coat with 2 coats of bitumen.

Nail Testing. Verification test(s) shall be conducted on site to establish or confirm the ultimate soil/grout bond stress assumed in the soil nailed wall design calculations. Proof testing will also be required on selected production nails to assure that the design assumptions are satisfied.

The Contractor shall supply all material, equipment, and labor to perform the tests. This equipment shall include 2 dial gauges, dial support, jack, pressure gauge, electronic load cell, and a reaction frame. The pressure gauge shall be graduated in 75 psi increments or less. The nail head movement shall be measured with 2 dial gauges capable of measuring to 0.001 inch. The load applied to the nails during the tests shall be monitored with an electric load cell with compatible read-out device, and recent calibration curve.

All test nails shall have both bonded and temporary unbonded portions to insure test loading the bonded length indicated on the shop drawings and maintain the stability of the drillhole within the unbonded test length. The unbonded length of the test nail shall be at least a 3 ft.

- (a) Verification Testing. Prior to installing production nails, verification testing shall be performed on nails installed with the proposed production drilling and grouting installation system to verify the Contractor's procedures, hole diameter, and design assumptions. The verification test nails shall be sacrificial and not be incorporated as production nails.

Where casing of the unbonded zone is utilized, casing shall be placed in a manner which precludes any reaction against the grouted bond zone nail during testing. The test bonded length L_{BVT} shall be at least 10 ft. but not longer than the maximum length L_{BVTmax} such that the nail load does not exceed 90 percent of the nail bar capacity during the verification test. The following requirements shall be met:

L_{BVT} = Test bond length = 10 ft min. and less than the L_{BVTmax}

L_{BVTmax} = Max. Verification Bonded Length (ft.) = $C \cdot f_y \cdot A_S / (3.0 \cdot Q_{all})$ where:

C = 0.9 for Grade 60 and 75 bars and 0.8 for Grade 150 bars.

f_y = Bar Yield stress for grade 60 and 75 or Ultimate Stress for grade 150 (kip/in²).

A_S = Bar Steel Area (in²).

Q_{all} = Allowable pullout resistance (kip/ft).

The Design Test Load (DTL) shall be taken as $= L_{BVT} \cdot Q_{all}$

Verification test nails shall be incrementally loaded to the maximum test load in accordance with the following loading schedule. The soil nail movements shall be recorded at each load increment. The jack shall be positioned at the beginning of the test such that unloading and repositioning of the jack during the test will not be required.

VERIFICATION TEST LOADING SCHEDULE	
Test Load	Load-Hold Time
0.05 DTL max.(AL)	1 minute
0.25 DTL	10 minutes
0.50 DTL	10 minutes
0.75 DTL	10 minutes
1.00 DTL	10 minutes
1.25 DTL	10 minutes
1.50 DTL (Creep Test)	60 minutes
1.75 DTL	10 minutes
2.00 DTL	10 minutes
2.50 DTL	10 minutes max.
3.0 DTL or failure	10 minutes max.
0.05 DTL max.(AL)	1 min. (record permanent set)

The alignment load (AL) should be the minimum load required to align the testing apparatus and should not exceed 5 percent to the DTL. Dial gauges should be set to “zero” after the alignment load has been applied. Following application of the maximum load (3.0 DTL) reduce the load to the alignment load (0.05 DTL maximum) and record the permanent set.

The load-hold period shall start as soon as the test load is applied. The verification test nails shall be monitored for creep at the 1.50 DTL load increment. Nail movements during the creep portion of the test shall be measured and recorded at 1, 2, 3, 5, 6, 10, 20 30, 50 and 60 minutes. The load during the creep test shall be maintained within 2 percent of the intended load by use of the load cell.

- (b) Proof Testing. Proof testing shall be performed on at least 5 percent of the production nails in each nail row or minimum of 1 per row as shown on the approved shop drawings or as directed by the Engineer. The test bonded length L_{BPT} shall be at least 10 ft. but not longer than the maximum length L_{BPTmax} such that the nail load does not exceed 90 percent of the bar capacity during the proof test. Production proof test nails shorter than 12 ft in length may use less than 10 ft. bonded lengths. The following requirements shall be met:

$$L_{BPT} = \text{Test bond length} = 10 \text{ ft min. and less than the } L_{BPTmax}$$

$$L_{BPTmax} = \text{Max. Proof Bonded Length (ft.)} = C \cdot f_y \cdot A_S / (1.5 \cdot Q_{all}) \quad \text{where:}$$

$C=0.9$ for Grade 60 and 75 bars and 0.8 for Grade 150 bars.

f_y =Bar Yield for grade 60 and 75 or Ultimate Stress for grade 150 (kip/in²).

A_S =Bar Steel Area (in²).

Q_{all} =Allowable pullout resistance (kip/ft, established in verification tests).

The Design Test Load (DTL) shall be taken as $= L_{BPT} \cdot Q_{all}$

Proof test nails shall be incrementally loaded to the maximum test load in accordance with the following loading schedule. The soil nail movements shall be recorded at each load increment.

<u>PROOF TEST LOADING SCHEDULE</u>	
Test Load	Load-Hold Time
0.05 DTL max.(AL)	Until Movement Stabilizes
0.25 DTL	Until Movement Stabilizes
0.50 DTL	Until Movement Stabilizes
0.75 DTL	Until Movement Stabilizes
1.00 DTL	Until Movement Stabilizes
1.25 DTL	Until Movement Stabilizes
1.50 DTL (max. test load)	Creep Test (see below)

The alignment load (AL) should be the minimum load required to align the testing apparatus and

should not exceed 5 percent to the DTL. Dial gauges should be set to “zero” after the alignment load has been applied.

The creep period shall start as soon as the test load (1.5 DTL) is applied and the nail movement shall be measured and recorded at 1, 2, 3, 5, 6, and 10 minutes. Where the nail movement between 1 minute and 10 minutes exceeds 0.04 inch, the maximum test load shall be maintained an additional 50 minutes and movements shall be recorded at 20 minutes, 30, 50, and 60 minutes. The load during the creep test shall be maintained within 5 percent of the intended.

(c) Test Acceptance Criteria. A test nail shall be considered acceptable when all of the following criteria are met:

- (1) For verification tests, the total creep movement is less than 0.08 inch between the 6 and 60 minute readings and the creep rate is linear or decreasing throughout the creep test load hold period.
- (2) For proof tests, the total creep movement is less than 0.04 inch between the 10 minute readings or or the total creep movement is less than 0.08 inches during the 60 minute readings and the creep rate is linear or decreasing throughout the creep test load hold period.
- (3) For verification and proof tests, the total measured movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the test nail unbonded length.
- (4) A pullout failure does not occur at the 3.0 DTL under verification testing and 1.5 DTL test load under proof testing. Pullout failure is defined as the point where the jack cannot maintain the desired load for the desired period due to nail movement.
- (5) Stability of the drillhole excavation has been maintained in the unbonded portion of the nail length during and after testing.

Verification test nails not satisfying the testing criteria shall be replaced with an additional verification test nail using alternative drilling and grouting methods or lower allowable grout to soil bond stress which would necessitate wall design revisions.

Proof test nails not satisfying the testing criteria shall require the Contractor to replace some or all of the installed production nails between a failed proof test nail and an adjacent passing proof test nail. The Engineer may also require design modifications including additional nails, reducing the nail design load, increasing the drill hole diameter or revising the construction procedures and testing additional nails.

Method of Measurement. Soil Nailed Wall will be measured for payment in square meters (square feet). This measurement will be taken at each tier from the top of the shotcrete facing to the base extending along the length of the wall.

The geocomposite wall drain will be measured for payment in place in square yards of the actual surface area covered as approved in the Contractor's shop drawings.

Basis of Payment. This work, including reinforced shotcrete, soil nails, and accessories will be paid for at the contract unit price per square meter (square foot) for SOIL NAILED WALL.

The geocomposite wall drain shall be paid for at the contract unit price per square yard for GEOCOMPOSITE WALL DRAIN.

Obstruction mitigation shall be paid for according to Article 109.04.

JACKING AND CRIBBING

Effective: September 26, 2000

Description: This item shall consist of furnishing all material, equipment and labor for installation and subsequent removal of jacking support systems complete, including jacks, support beams, shims and all necessary cribbing to be used while performing the repairs as detailed in the plans.

Construction Requirements: Traffic shall be removed from the portion of the structure to be jacked prior to commencing jacking operations. Traffic shall be kept off the structure during the jacking operations until the structure is fully cribbed.

The superstructure shall be raised in such a manner as to avoid distortion or damage to any of its members. Differential jacking height shall not exceed 1/8 inch transversely between adjacent beams or 1/4 inch longitudinally between adjacent supports. The actual raising of the superstructure shall be kept to the minimum height required to complete the repairs, as shown in the plans.

Jacking and cribbing details with calculations shall be submitted to the Engineer for approval prior to starting any jacking procedures. The contractor's jacking plans shall be prepared and sealed by an Illinois Licensed Structural Engineer. The Engineer shall be present during the jacking operation and the jacking sequence shall meet with his/her approval. The Engineer's presence or approval shall not relieve the Contractor of responsibility for the safety of the operation or for damage to the structure.

At any time during the bridge raising operations, the Engineer may require the Contractor to provide additional supports or measures in order to furnish an added degree of safety. The Contractor shall provide such additional supports or measures at no extra cost to the Department.

The Contractor shall be responsible for restoring to their original condition, prior to jacking, the drainage ditches, pavement, or slope wall disturbed by the cribbing footings.

The Contractor shall assume all responsibility and be liable for any damage caused by improper supports for shoring in all cases and for any damage to existing utility conduits suspended under

the bridge. Neither added precautions nor the failure of the Engineer to order additional protection will in any way relieve the Contractor of sole responsibility for the safety of lives, equipment and structure.

Basis of payment: This work, as herein specified, will be paid for at the contract unit price per LUMP SUM for JACKING AND CRIBBING at the locations specified, which price shall be payment for all work and materials required at specified locations.

ADA PEDESTRIAN PUSHBUTTON

This work shall be in accordance with Section 1074.02 of the Standard Specifications except as modified herein.

All pedestrian pushbuttons shall have a round case and be equipped with a 2" diameter mushroom head for easy access.

The pedestrian pushbuttons shall be of polycarbonate construction and shall have a black housing and a yellow button. The pushbutton shall utilize a solid state switch or reed relay.

The following model is approved for use within the District: Polara, Model MPBP/BY or a Bumblebee Round Pushbutton.

The pedestrian pushbutton installation shall include all crossing signs and hardware required to mount the pedestrian pushbutton. All hardware shall be of stainless steel construction. All bolts shall be ¼" Hex Head and no self tapping/drilling screws will be allowed. Anti-Seize paste shall be installed on all fasteners.

The following pedestrian pushbutton signs currently meet Department Specifications: Pelco, Models SF-1013-08, SF-1014-08 or approved equivalent.

Basis of Payment:

The above work shall be paid for at the contract unit price EACH for ADA PEDESTRIAN PUSHBUTTON, and shall be payment in full for all labor, equipment, and materials needed to supply and install the pedestrian pushbuttons described above, complete.

LIME MODIFIED SOILS

This work shall be done in accordance with Article 302 of the Standard Specifications except as included herein. Compaction of the mixture shall be as detailed in the previously noted Standard Specification except the compaction shall be continued until the lime modified layer has a density to meet the satisfaction of the Engineer. The water used will not be paid for separately, but shall be considered included in the contract unit price per square meter (square yard) for PROCESSING LIME MODIFIED SOILS.

BITUMINOUS CONCRETE LEVELING BINDER, BINDER AND SURFACE COURSE, CLASS I

This Special Provision lists additional requirements for Bituminous Concrete overlays.

1. All air-cooled blast furnace slag aggregate(s) and novaculite shall be double dried before being incorporated in the mix. Other aggregates with water absorption greater than 2.5%

may be required to be double dried to reduce the moisture to less than 0.3 percent by weight in any one hot bin for batch plants and 0.5 percent for a drum mixing plant on the mixture as discharged from the drum. Any uncovered or unprotected stockpile of predried aggregate that is rained upon, or is not used within seven (7) calendar days, may be treated as undried aggregate and, when so directed by the Engineer, shall again be double dried before incorporation into the mixture.

2. The use of flyash with collected dust shall be limited to those plants that can proportion each type of filler separately.
3. Leveling Binder (Machine Method) where the thickness is 40mm (1-1/2") or greater shall be Binder Course.

The costs for complying with this Special Provision will not be paid for separately, but shall be included in the contract unit prices per metric ton (ton) for BITUMINOUS CONCRETE LEVELING BINDER, BINDER AND SURFACE COURSE, CLASS I OR SUPERPAVE MIXTURES, of the type specified.

INCIDENTAL BITUMINOUS SURFACING, SUPERPAVE

This work shall be done in accordance with Section 408 of the Standard Specifications and the Special Provisions for Superpave Bituminous Mixtures revised January 1, 2003, except that bituminous priming material and aggregate for covering the prime coat will not be measured for payment, but will be included in the contract unit price per metric ton (ton) for INCIDENTAL BITUMINOUS SURFACING, SUPERPAVE of the friction aggregate mixture and N design specified.

GUTTER OUTLET REMOVAL (NO. 2)

At locations noted on the plans, the existing gutter outlets shall be removed and disposed of in accordance with Section 440 of the Standard Specifications.

The Contractor shall exercise care not to damage the adjacent existing pavement during removal operations. Any damage shall be repaired by the Contractor at his expense.

Gutter Outlet Removal will be paid for at the contract unit price per each for GUTTER OUTLET REMOVAL, which price shall include payment for the removal of the concrete structure, grate and pipe within the limits shown on the plans, and the satisfactory disposal of the materials.

REMOVAL OF EXISTING RAISED REFLECTIVE PAVEMENT MARKERS

The removal of existing raised reflective pavement markers shall be included in the contract unit price per square meter (square yard) for BITUMINOUS SURFACE REMOVAL of the thickness shown on the plans.

SEGMENTAL CONCRETE BLOCK WALL

Effective: January 7, 1999

Revised May 5, 2000

Description. This work shall consist of furnishing the design computations, shop plans, materials, equipment and labor to construct a Segmental Concrete Block Retaining Wall with a maximum height of 1.5 m (5 ft) as measured from the top of block elevation to the finished grade line at the wall face.

General. The wall shall consist of a leveling pad, pre-cast concrete blocks, select granular backfill and, if required by the design, soil reinforcement. The materials, fabrication, and construction of the wall components are subject to approval by the Engineer. The Engineer reserves the right to obtain random samples for material testing. The wall shall be designed and constructed according to the lines, grades, and dimensions shown on the contract plans and approved shop plans.

Submittals. The wall supplier shall submit design computations and shop plans to the Engineer. The shop plans shall be sealed by an Illinois Licensed Professional Engineer and shall include all details, dimensions, quantities, and cross sections necessary to construct the wall and shall include, but not be limited to, the following items:

- (a) Plan, elevation, and cross section sheet(s) for each wall showing the following:
 - (1) A plan view of the wall indicating the offsets from the construction centerline to the first course of blocks at all changes in horizontal alignment. These shall be calculated using the offsets to the front face of the block shown on the contract plans and the suppliers proposed wall batter. The plan view shall indicate bottom (and top coarse of block when battered), the excavation and select granular backfill limits as well as any soil reinforcing required by the design. The centerline of any drainage structure or pipe behind or passing through/under the wall shall also be shown.
 - (2) An elevation view of the wall, indicating the elevation and all steps in the top coarse of blocks along the length of the wall. The top of these blocks shall be at or above the theoretical top of block line shown on the contract plans. This view shall also show the steps and proposed top of leveling pad elevations as well as the finished grade line at the wall face specified on the contract plans. These leveling pad elevations shall be located at or below the theoretical top of leveling line shown on the contract plans. The location, size, and length of any soil reinforcing connected to the blocks shall be indicated.
 - (3) Typical cross section(s) showing the limits of the select granular backfill, soil reinforcement if used in the design. The right-of-way limits shall be indicated as well as the proposed excavation, cut slopes, and the elevation relationship between existing ground conditions and proposed grades.
 - (4) All general notes required for constructing the wall.
- (b) All details for the leveling pads, including the steps, shall be shown. The theoretical top of the leveling pad shall either be below the anticipated frost depth or 450 mm (1.5 feet) below the finished grade line at the wall face, whichever is greater; unless otherwise shown on the plans. The minimum leveling pad thickness shall be 152 mm (6 in.)
- (c) Cap blocks shall be used to cover the top of the standard block units. The top coarse of blocks and cap blocks shall be stepped to satisfy the top of block line shown on the contract plans.
- (d) All details of the block and/or soil reinforcement placement around all appurtenances located behind, on top of, or passing through the wall shall be clearly indicated. Any modifications to the design of these appurtenances to accommodate a particular design arrangement shall also be submitted.

- (e) All details of the blocks, including color and texture shall be shown. The exterior face shall preferably be straight, textured with a "split rock face" pattern, and dark gray in color unless otherwise stated on the plans.
- (f) All block types (standard, cap, corner, and radius turning blocks) shall be detailed showing all dimensions.
- (g) All blocks shall have alignment/connection devices such as shear keys, leading/trailing lips, or pins. The details for the connection devices between adjacent blocks and the block to soil reinforcement shall be shown. The block set back or face batter shall be limited to 20 degrees from vertical, unless otherwise shown by the plans.

The initial submittal shall include 3 sets of prints of the detail shop plans and 1 set of calculations. One set of plans will be returned to the Contractor with any corrections indicated. After approval, the Contractor shall furnish the Engineer with 8 sets of corrected plan prints for distribution. No work or ordering of materials for the structure shall be done by the Contractor until the submittal has been approved in writing by the Engineer.

Materials. The materials shall meet the following requirements:

- (a) Pre-cast Concrete Block: The block proposed for use shall be produced according to the Department's Policy Memorandum "Quality Control/ Quality Assurance Program for Precast Concrete Products", and shall satisfy the following:

Conform to the requirements of ASTM C 1372 except as follows:

- 1. Fly ash shall be according to Article 1010.03.
 - 2. Ground granulated blast-furnace slag shall be according to AASHTO M 302.
 - 3. Aggregate shall be according to Articles 1003.02 and 1004.02, with the exception of gradation. Chert gravel may be used based on past in-service satisfactory performance, in the environment in which the product was used.
 - 4. Water shall be according to Section 1002.
 - 5. Testing for freeze-thaw durability will not be required. However, unsatisfactory field performance as determined by the Department will be cause to prohibit the use of the block on Department projects.
- (b) Select Granular Backfill: The material behind the blocks and above a 1:1 slope extending upward from either the back of the bottom block or soil reinforcement (whichever is greater) shall consist of either a coarse aggregate according to Article 1004.06(a), or a fine aggregate according to the first sentence of Article 1003.04(a). The aggregate used shall also meet the following:

Coarse Aggregate Gradation
Fine Aggregate Gradation
Coarse Aggregate Quality
Fine Aggregate Quality

CA 6 thru CA 16 (Article 1004.01(c))
FA 1, FA 2, or FA 20 (Article 1003.01(c))
Minimum Class C (Article 1004.01(b))
Minimum Class C (Article 1003.01(b))

Internal Friction Angle	34° minimum (AASHTO T 236)
pH	4.5 to 9 (AASHTO T 289)

When a fine aggregate is selected, the rear of all block joints shall be covered by a non-woven needle punch geotextile filter material according to Article 1080.05 of the Standard Specifications and shall have a minimum permeability according to ASTM D 4491 of 0.008 cm/sec. All fabric overlaps shall be 150 mm (6 inches) and non-sewn. As an alternative to the geotextile, a coarse aggregate shall be placed against the back face of the blocks to create a minimum 300 mm (12 inches) wide continuous gradation filter to prevent the select fill material from passing through the block joints.

- (c) Leveling pad: The material shall be either Class SI concrete according to Article 1020.04 or compacted coarse aggregate according to Articles 1004.04, (a) and (b). The compacted coarse aggregate gradation shall be CA 6 or CA 10.
- (d) Soil Reinforcement: If soil reinforcement is required by the approved design, the Contractor shall submit a manufacturer's certification for the soil reinforcement properties which equals or exceeds those required in the design computations. The soil reinforcement shall be manufactured from high density polyethylene (HDPE) uniaxial or polypropylene biaxial resins or high tenacity polyester fibers with a PVC coating, stored between -29 and 60° C (-20 and 140° F). The following standards shall be used in determining and demonstrating the soil reinforcement capacities:

ASTM D-638 Test Method for Tensile Properties of Plastic
ASTM D-1248 Specification for Polyethylene Plastics Molding and Extrusion Materials
ASTM D-4218 Test Method for Carbon Black Content in Polyethylene Compounds
ASTM D-5262 Test Method for Evaluating the Unconfined Tension Creep Behavior of Geosynthetics
GG1-Standard Test Method for Geogrid Rib Tensile Strength
GG2-Standard Test Method for Geogrid Junction Strength
GG4-Standard Practice for Determination of the Long Term Design Strength of Geogrid
GG5-Standard Practice for Evaluating Geogrid Pullout Behavior

Design Criteria. The design shall be according to AASHTO Specifications and commentaries for Earth Retaining Walls or FHWA Publication No. HI-95-038, SA-96-071 and SA-96-072. The wall supplier shall be responsible for all internal stability aspects of the wall design.

Internal stability design shall insure that adequate factors of safety against overturning and sliding are present at each level of block. If required by design, soil reinforcement shall be utilized and the loading at the block/soil reinforcement connection as well as the failure surface must be indicated. The calculations to determine the allowable load of the soil reinforcement and the factor of safety against pullout shall also be included. The analysis of settlement, bearing capacity, and overall slope stability are the responsibility of the Department.

External loads such as those applied through structure foundations, from traffic or railroads, slope surcharge etc., shall be accounted for in the internal stability design. The presence of all appurtenances behind, in front of, mounted upon, or passing through the wall volume such as drainage structures, utilities, structure foundation elements, or other items shall be accounted for in the internal stability design of the wall.

Construction Requirements. The Contractor shall obtain technical assistance from the supplier during wall erection to demonstrate proper construction procedures and shall include all costs related to this technical assistance in the unit price bid for this item.

The foundation material for the leveling pad and select granular backfill volume shall be graded to the design elevation and compacted according to Article 205.06, except the minimum required compaction shall be 95% of the standard laboratory density. Any foundation soils found to be unsuitable shall be removed and replaced as directed by the Engineer and shall be paid for according to Article 109.04.

The select granular backfill lift placement shall closely follow the erection of each course of blocks. All aggregate shall be swept from the top of the block prior to placing the next block lift. If soil reinforcement is used, the select granular backfill material shall be leveled and compacted before placing and attaching the soil reinforcement to the blocks. The soil reinforcement shall be pulled taut, staked in place, and select fill placed from the rear face of the blocks outward. The lift thickness shall be the lesser of 255 mm (10 inches) loose measurement or the proposed block height.

The select granular backfill shall be compacted according to Article 205.06, except the minimum required compaction shall be 95% of the standard laboratory density. Compaction shall be achieved using a minimum of 3 passes of a lightweight mechanical tamper, roller, or vibratory system. The top 300 mm (12 inches) of backfill shall be a cohesive, impervious material capable of supporting vegetation, unless other details are specified on the plans.

The blocks shall be maintained in position as successive lifts are compacted along the rear face of the block. Vertical, horizontal, and rotational alignment tolerances shall not exceed 12 mm (1/2 inch) when measured along a 3 m (10 ft.) straight edge.

Method of Measurement. Segmental Concrete Block Wall will be measured by the square meter (square foot) of wall face from the top of block line to the theoretical top of the leveling pad for the length of the wall in a vertical plane, as shown on the contract plans.

Basis of Payment. This work will be paid for at the contract unit price per square meter (square foot) for SEGMENTAL CONCRETE BLOCK WALL.

CONCRETE HEADWALL FOR PIPE DRAINS

This shall be done in accordance with Standard 601001 and Standard 601101. All areas disturbed by the construction of the headwall and the pipe underdrain special shall be seeded with a mixture conforming to the Class II Seeding mixtures specified in Section 250.07 of the Standard Specifications. Fertilizer nutrients and mulch shall be applied in accordance with the rates shown in the plans.

This work will be paid for at the contract unit price per each for CONCRETE HEADWALL FOR PIPE DRAIN, which price shall include all labor and materials, including rodent shield, seeding, fertilizer nutrients, and mulch.

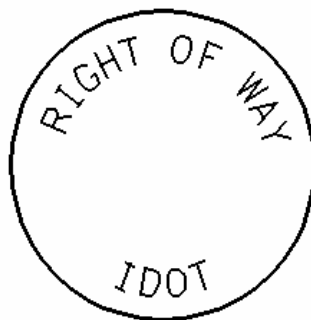
TRAFFIC BARRIER TERMINALS

Holes required for attaching traffic barrier terminals to structures shall be formed or cored. Drilled holes will not be permitted.

FURNISHING RIGHT-OF-WAY MARKERS, SPECIAL

The Contractor shall furnish a 15mm (5/8 inch) diameter by 760mm (30 inch) long reinforcement bar and a 48mm (1-7/8 inch) minimum diameter flat top cap to be installed by the Engineer at locations on the right of way line.

The cap shall be a corrosion-resistant aluminum survey cap of a design compatible with the reinforcement bar furnished which will provide for a solid, tight fit after installation. The caps shall be pre-marked thus:



The Engineer will tie, locate and install all markers involved in this item.

This work will be paid for at the contract unit price per each for FURNISHING RIGHT-OF-WAY MARKERS, SPECIAL, which price shall include the furnishing of a reinforcement bar and cap for each right-of-way marker.

PAINT PAVEMENT MARKING REMOVAL

This work shall consist of removal of existing painted pavement markings by sand or hydro-blasting, or by grinding.

All equipment shall be of sufficient capacity to efficiently and economically clean the roadway surface to the specified cleanliness. Equipment shall be power driven and in good operating condition. Equipment shall utilize moisture and oil traps, in working order, of sufficient capacity to remove contaminants from the air and prevent deposition oil or other contaminants on the roadway surface.

Eighty-five percent (85%) of the pavement substrate where the epoxy markings are to be placed shall be exposed prior to the epoxy application.

The roadway surface shall be cleared of debris, blast sand, or any other deleterious material by the use of jets or compressed air or water immediately preceding the epoxy application.

Over cleaning to the extent of possible damage to the roadway surface shall be held to a minimum. Very small particles of tightly adhering existing markings may remain in place if, in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.

Method of Measurement:

This work will be measured in square meter (square foot) of existing white or yellow pavement marking line removed. It shall be recognized that retracing of existing markings may have resulted in portions of some lines to be removed measuring greater in width than the lines to be placed in the same location. For payment purposes, all existing lines shall be considered to have the same area as the lines to be placed in the same location regardless of the area of paint actually removed.

Basis of Payment:

This work will be paid for at the contract unit price per square meter (square foot) for PAINT PAVEMENT MARKING REMOVAL.

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS

Effective: April 1, 2001

Revise Article 402.10 of the Standard Specifications to read:

“402.10 For Temporary Access. The contractor shall construct and maintain aggregate surface course for temporary access to private entrances, commercial entrances and roads according to Article 402.07 and as directed by the Engineer.

The aggregate surface course shall be constructed to the dimensions and grades specified below, except as modified by the plans or as directed by the Engineer.

- (a) Private Entrance. The minimum width shall be 3.6 m (12 ft). The minimum compacted thickness shall be 150 mm (6 in.). The maximum grade shall be eight percent, except as required to match the existing grade.
- (b) Commercial Entrance. The minimum width shall be 7.2 m (24 ft). The minimum compacted thickness shall be 230 mm (9 in.). The maximum grade shall be six percent, except as required to match the existing grade.
- (c) Road. The minimum width shall be 7.2 m (24 ft). The minimum compacted thickness shall be 230 mm (9 in.). The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

Maintaining the temporary access shall include relocating and/or regrading the aggregate surface course for any operation that may disturb or remove the temporary access. The same type and gradation of material used to construct the temporary access shall be used to maintain it.

When use of the temporary access is discontinued, the aggregate shall be removed and utilized in the permanent construction or disposed of according to Article 202.03.”

Add the following to Article 402.12 of the Standard Specifications:

“Aggregate surface course for temporary access will be measured for payment as each for every private entrance, commercial entrance or road constructed for the purpose of temporary access. If a residential drive, commercial entrance, or road is to be constructed under multiple stages, the aggregate needed to construct the second or subsequent stages will not be measured for payment but shall be included in the cost per each of the type specified.”

Revise the second paragraph of Article 402.13 of the Standard Specifications to read:

“Aggregate surface course for temporary access will be paid for at the contract unit price per each for TEMPORARY ACCESS (PRIVATE ENTRANCE), TEMPORARY ACCESS (COMMERCIAL ENTRANCE) or TEMPORARY ACCESS (ROAD).

Partial payment of the each amount bid for temporary access, of the type specified, will be paid according to the following schedule:

- (a) Upon construction of the temporary access, sixty percent of the contract unit price per each, of the type constructed, will be paid.
- (b) Subject to the approval of the Engineer for the adequate maintenance and removal of the temporary access, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary access.”

STEEL COMBINATION MAST ARM ASSEMBLY AND POLE

Steel combination mast arm assemblies and poles shall be furnished and erected at locations as designated on the plans. This work shall be done in accordance with the "Standard Specifications" and Standard 877001 the following exceptions:

1. The height of the luminaire installation shall be reduced from 12.2m (40 ft.) to 10.7m (35 ft.).
2. The ground rods furnished for the concrete foundations shall be 3m (10 ft.).
3. The standard shall be designed as detailed in Article 1077.03 of the Standard Specifications. The installation shall also be designed to support an additional load of 319kg (702 pounds) for #4 triplex.
4. The mast arms for the luminaires shall be supplied with a 25mm (1 inch) wire outlet hole approximately 150mm (6 inches) from the mounting plate. Non-metallic grommets and plugs shall be provided by the Contractor. One overhead bracket meeting the details as shown on the plans shall be provided and attached to each pole approximately 150mm (6 inches) below the mounting plate on the pole.
5. The luminaires will be furnished and installed by the power company involved.

SIGNAL HEAD AND PEDESTRIAN SIGNAL HEAD

(Eff. 6/1/90; Rev. 7/1/90)

The manufacture and installation of a Signal Head and Pedestrian Signal Head shall meet the applicable portions of Sections 880 and 881, and Articles 1078.01 and 1078.02 of the Standard Specifications except as revised in A and B below.

- A. The lens supplied shall conform to the Institute of Traffic Engineers Standard (ITE Technical Report No. 1).
- B. The pedestrian indications shall consist of the symbolized message. The lettered messages "WALK" and "DON'T WALK" will not be allowed.

The cost of complying with the above requirement will not be paid for separately, but will be considered incidental to the contract unit price per each for SIGNAL HEAD and PEDESTRIAN SIGNAL HEAD, of the type specified.

FULL-ACTUATED CONTROLLER

The furnishing and installation of the full-actuated controller shall conform to the requirements of Section 857 and Articles 1073.01 and 1074.03 of the Standard Specifications with the following additions.

Additions:

- 1.) The cabinet shall be equipped with detector test switches for a minimum of four pedestrian movements and eight vehicular phases.
- 2.) The lightning arrester provided on the A.C. power circuit shall be the Edco SHA-1250 or equivalent.

The controller, with additions and revisions listed above, shall be paid for as detailed in Article 857.04 of the Standard Specifications.

CLEANING & PAINTING CONTACT SURFACE AREAS OF EXISTING STEEL STRUCTURES

Effective: June 30, 2003

Description. This work shall consist of the surface preparation and painting of existing steel structures in areas that will be in contact with new steel.

The existing steel at primary connections (faying surfaces) shall be prepared, and primed as specified herein prior to connecting new structural steel to the existing structure.

The existing steel at secondary connections shall be prepared, and if bare metal is exposed, primed as specified herein prior to connecting new structural steel to the existing structure.

General. The existing coatings shall be assumed to contain lead and may also contain other toxic metals. Any plans that may be furnished for the work, and any dimensions or other information given regarding a structure, are only for the purpose of assisting bidders in determining the type and location of steel to be cleaned and painted. It is the responsibility of the Contractor to verify this information and the accuracy of the information provided shall in no way affect the price bid for structural steel.

Materials. The Bureau of Materials and Physical Research has established a list of all products that have met preliminary requirements. Each batch of material must be tested and approved before use.

The paint materials shall meet the requirements of the following articles of the Standard Specification:

<u>Item</u>	<u>Article</u>
a) Organic Zinc Rich Primer (Note 1)	
b) Aluminum Epoxy Mastic	1008.25

Note 1: These material requirements shall be according to the Special Provision for the Organic Zinc-Rich Paint System.

Submittals:

- a) Manufacturer's application instructions and product data sheets. Copies of the paint manufacturer's application instructions and product data sheets shall be furnished to the Engineer at the field site before steel cleaning begins.
- b) Waste Management Plan. The Waste Management Plan shall address all aspects of waste handling, storage, testing, hauling and disposal. Include the names, addresses, and a contact person for the proposed licensed waste haulers and disposal facilities. Submit the name and qualifications of the laboratory proposed for Toxicity Characteristic Leaching Procedure (TCLP) analysis.

Construction Requirements. The Contractor shall provide artificial lighting in areas where natural light is inadequate, as determined by the Engineer, to allow proper cleaning, inspection, and painting. Illumination for inspection shall be at least 325 LUX (30 foot candles). Illumination for cleaning and priming, including the working platforms, access, and entryways shall be at least 215 LUX (20 foot candles).

The Contractor shall be responsible for any damage caused to persons, vehicles, or property, except as indemnified by the Response Action Contractor Indemnification Act. Whenever the intended purposes of the protective devices are not being accomplished, as determined by the Engineer, work shall be immediately suspended until corrections are made. Painted surfaces damaged by any Contractor's operation shall be removed and repainted, as directed by the Engineer, at the Contractor's expense.

Weather Conditions. Surfaces to be primed after cleaning shall remain free of moisture and other contaminants. The Contractor shall control his/her operations to insure that dust, dirt, or moisture does not come in contact with surfaces cleaned prior to painting. Surfaces painted shall be protected until the coating is sufficiently cured to protect itself from damage.

Restrictions on ambient conditions shall be as per the coating manufacturer's written specifications.

Surface Preparation: Prior to making connections or painting, all loose abrasives, paint, and residue shall be contained, collected, removed from the surface area and properly disposed of as specified later in this specification.

Painted surfaces of new steel damaged by abrasive blasting or by the Contractor's operations shall be repainted, as directed by the Engineer, at the Contractor's expense.

- a) **Primary Connections.** Primary connections shall be defined as faying (contact) surfaces of high-strength bolted splices in main, load-carrying members, end diaphragms, end cross-frames, and other areas specifically noted in plans (such as cross-frame connections on curved girders, etc.). These will typically occur where existing splices are replaced or new splices are added.

The surfaces of existing steel in all areas that will be in direct contact with new steel shall be prepared according to SSPC-SP15, Commercial Grade Power Tool Cleaning using vacuum-shrouded power tools equipped with HEPA filtration. The surface preparation shall remove all rust, mill scale, and existing paint from the contact surface. At the Contractors option, vacuum blast cleaning according to SSPC-SP6, Commercial Blast Cleaning may be substituted for SSPC-SP15 at no additional cost to the Department. The surface profile for primary connection surfaces shall be 38 to 90 microns (1.5 to 3.5 mils).

- b) **Secondary Connections.** Secondary connections shall be defined as all surface areas of existing members that will be in contact with new steel except as previously defined as primary connections.

These surfaces of existing steel in all areas that will be in direct contact with new steel shall be prepared according to SSPC-SP3, Power Tool Cleaning using vacuum-shrouded power tools equipped with HEPA filtration. The surface preparation shall remove all loose rust, loose mill scale, and loose, checked, alligatored and peeling paint from the contact surface. At the Contractors option, vacuum blast cleaning according to SSPC-SP6, Commercial Blast Cleaning or SSPC-SP15, Commercial Grade Power Tool Cleaning may be substituted for SSPC-SP3 at no additional cost to the Department. The surface profile for abrasive blast cleaning and Commercial Grade Power Tool Cleaning shall be 38 to 90 microns (1.5 to 3.5 mils).

Painting. The manufacturer's written instructions shall be followed for paint storage, mixing, thinning, application, ambient conditions, and drying times between coats. The surface shall be free of dirt, dust, and debris prior to the application of any coat. The coatings shall be applied as a continuous film of uniform thickness free of defects including, but not limited to, runs, sags, overspray, dryspray, pinholes, voids, skips, misses, and shadow-through. Defects such as runs and sags shall be brushed out immediately during application.

The Engineer will approve surface preparation prior to priming.

- a) For Primary connections the surface of the prepared steel cleaned to bare metal shall be primed with an organic zinc rich primer between 90 and 125 microns (3.5 and 5.0 mils) dry film thickness.
- b) For Secondary Connections the surface of the prepared steel cleaned to bare metal shall be painted with one coat of epoxy mastic between 125 microns to 180 microns (5 to 7 mils) in thickness. Areas not cleaned to bare metal need not be painted.

The primer shall cure according to the manufacturers instructions prior to connecting new structural steel to the existing structure.

The surrounding coating at each prepared location shall be feathered for a minimum distance of 40 mm (1½ in.) to achieve a smooth transition between the prepared areas and the existing coating.

Collection, Temporary Storage, Transportation and Disposal of Waste. The Contractor and the Department are considered to be co-generators of the waste.

The Contractor is responsible for all aspects of waste collection, testing and identification, handling, storage, transportation, and disposal according to these specifications and all applicable Federal, State, and Local regulations. The Contractor shall provide for Engineer review and acceptance a Waste Management Plan that addresses all aspects of waste handling, storage, and testing, and provides the names, addresses, and a contact person for the proposed licensed waste haulers and disposal facilities. The Department will not perform any functions relating to the waste other than provide EPA identification numbers, provide the Contractor with the emergency response information, the emergency response telephone number required to be provided on the manifest, and to sign the waste manifest. The Engineer will obtain the identification numbers from the state and federal environmental protection agencies for the bridge(s) to be painted and furnish those to the Contractor.

All surface preparation/paint residues shall be collected daily and deposited in all-weather containers supplied by the Contractor as temporary storage. The storage area shall be secure to prevent unauthorized entry or tampering with the containers. Acceptable measures include storage within a fully enclosed (e.g., fenced in) and locked area, within a temporary building, or implementing other reasonable means to reduce the possibility of vandalism or exposure of the waste to the public or the environment (e.g., securing the lids or covers of waste containers and roll-off boxes). Waste shall not be stored outside of the containers. Waste shall be collected and transferred to bulk containers taking extra precautions as necessary to prevent the suspension of residues in air or contamination of surrounding surfaces. Precautions may include the transfer of the material within a tarpaulin enclosure. Transfer into roll-off boxes shall be planned to minimize the need for workers to enter the roll-off box.

No residues shall remain on uncontained surfaces overnight. Waste materials shall not be removed through floor drains or by throwing them over the side of the bridge. Flammable materials shall not be stored around or under any bridge structures.

The all-weather containers shall meet the requirements for the transportation of hazardous materials and as approved by the Department. Acceptable containers include covered roll-off boxes and 55-gallon drums (17H). The Contractor shall insure that no breaks and no deterioration of these containers occurs and shall maintain a written log of weekly inspections of the condition of the containers. A copy of the log shall be furnished to the Engineer upon request. The containers shall be kept closed and sealed from moisture except during the addition of waste. Each container shall be permanently identified with the date that waste was placed into the container, contract number, hazardous waste name and ID number, and other information required by the IEPA.

The Contractor shall have each waste stream sampled for each project and tested by TCLP and according to EPA and disposal company requirements. The Engineer shall be notified in advance when the samples will be collected. The samples shall be collected and shipped for testing within the first week of the project, with the results due back to the Engineer within 10 days. The costs of testing shall be considered included in this work. Copies of the test results shall be provided to the Engineer prior to shipping the waste.

The existing paint removed, together with the surface preparation media (e.g. abrasive) shall be handled as a hazardous waste, regardless of the TCLP results. The waste shall be transported by a licensed hazardous waste transporter, treated by an IEPA permitted treatment facility to a non-hazardous special waste and disposed of at an IEPA permitted disposal facility in Illinois.

The treatment/disposal facilities shall be approved by the Engineer, and shall hold an IEPA permit for waste disposal and waste stream authorization for this cleaning residue. The IEPA permit and waste stream authorization must be obtained prior to beginning cleaning, except that if necessary, limited paint removal will be permitted in order to obtain samples of the waste for the disposal facilities. The waste shall be shipped to the facility within 90 days of the first accumulation of the waste in the containers. When permitted by the Engineer, waste from multiple bridges in the same contract may be transported by the Contractor to a central waste storage location(s) approved by the Engineer in order to consolidate the material for pick up, and to minimize the storage of waste containers at multiple remote sites after demobilization. Arrangements for the final waste pickup shall be made with the waste hauler by the time blast cleaning operations are completed or as required to meet the 90 day limit stated above.

The Contractor shall submit a waste accumulation inventory table to the Engineer no later than the 5th day of the month. The table shall show the number and size of waste containers filled each day in the preceding month and the amount of waste shipped that month, including the dates of shipments.

The Contractor shall prepare a manifest supplied by the IEPA for off-site treatment and disposal before transporting the hazardous waste off-site. The Contractor shall prepare a land ban notification for the waste to be furnished to the disposal facility. The Contractor shall obtain the handwritten signature of the initial transporter and date of the acceptance of the manifest. The Contractor shall send one copy of the manifest to the IEPA within two working days of transporting the waste off-site. The Contractor shall furnish the generator copy of the manifest and a copy of the land ban notification to the Engineer. The Contractor shall give the transporter the remaining copies of the manifest.

All other project waste shall be removed from the site according to Federal, State and Local regulations, with all waste removed from the site prior to final Contractor demobilization.

The Contractor shall make arrangements to have other hazardous waste, which he/she generates, such as used paint solvent, transported to the Contractor's facility at the end of each day that this waste is generated. These hazardous wastes shall be manifested using the Contractor's own generator number to a treatment or disposal facility from the Contractor's facility. The Contractor shall not combine solvents or other wastes with cleaning residue wastes. All waste streams shall be stored in separate containers.

The Contractor is responsible for the payment of any fines and undertaking any clean up activities mandated by State or federal environmental agencies for improper waste handling, storage, transportation, or disposal.

Contractor personnel shall be trained in the proper handling of hazardous waste, and the necessary notification and clean up requirements in the event of a spill. The Contractor shall maintain a copy of the personnel training records at each bridge site.

It is understood and agreed that the cost of all work outlined above, unless otherwise specified, has been included in the bid, and no extra compensation will be allowed.

Basis of Payment: This work will be considered included in the cost of "Furnishing and Erecting Structural Steel", "Erecting Structural Steel", or "Structural Steel Repair", as applicable, according to the Standard Specifications, unless otherwise specified on the plans.

CLEANING AND PAINTING NEW METAL STRUCTURES

Effective Date: September 13, 1994

Revised Date: April 2, 2003

Description. The material and construction requirements that apply to cleaning and painting new structural steel shall be according to the applicable portion of Sections 506 of the Standard Specifications except as modified herein. A three coat inorganic zinc rich /waterborne acrylic paint system shall be used.

Materials. All materials to be used on an individual structure shall be produced by the same manufacturer. The Bureau of Materials and Physical Research has established a list of all products that have met preliminary requirements. Each batch of material must be tested and approved by that bureau before use.

The paint materials shall meet the requirements of the following articles of the Standard Specification:

<u>Item</u>	<u>Article</u>
(a) Inorganic Zinc-Rich Primer	1008.22
(b) Waterborne Acrylic	1008.24
(c) Aluminum Epoxy Mastic	1008.25

Submittals. At least 30 days prior to beginning field painting, the Contractor shall submit for the Engineer's review and acceptance, the following applicable plans, certifications and information for completing the field work. Field painting can not proceed until the submittals are accepted by the Engineer. Qualifications, certifications and QC plans for shop cleaning and painting shall be available for review by the QA Inspector.

- a) Contractor/Personnel Qualifications. Except for miscellaneous steel items such as bearings, side retainers, expansion joint devices, and other items allowed by the Engineer, or unless stated otherwise in the contract, the shop painting Contractors shall be certified to perform the work as follows: the shop painting Contractor shall possess AISC Sophisticated Paint Endorsement or SSPC-QP3 certification. Evidence of current qualifications shall be provided.

Personnel managing the shop and field Quality Control program(s) for this work shall possess a minimum classification as a National Association of Corrosion Engineers (NACE) Coating Inspector Technician, or shall provide evidence of successful inspection of 3 projects of similar or greater complexity and scope that have been completed in the last 2 years. Copies of the certification and/or experience shall be provided.

The personnel performing the QC tests for this work shall be trained in coatings inspection and the use of the testing instruments. Documentation of training shall be provided.

- b) Quality Control (QC) Program. The shop and field QC Programs shall identify the following; the instrumentation that will be used, a schedule of required measurements and observations, procedures for correcting unacceptable work, and procedures for improving surface preparation and painting quality as a result of quality control findings. The field program shall incorporate the IDOT Quality Control Daily Report form, as supplied by the Engineer.
- c) Field Cleaning and Painting Inspection Access Plan. The inspection access plan for use by Contractor QC personnel for ongoing inspections and by the Engineer during Quality Assurance (QA) observations.

- d) **Surface Preparation/Painting Plan.** The surface preparation/painting plan shall include the methods of surface preparation and type of equipment to be utilized for solvent cleaning, abrasive blast cleaning, washing, and power tool cleaning. The plan shall include the manufacturer's names of the materials that will be used, including Product Data Sheets and Material Safety Data Sheets (MSDS).

A letter or written instructions from the coating manufacturer shall be included, indicating the required drying time for each coat at the minimum, normal, and maximum application temperatures before the coating can be exposed to temperatures or moisture conditions that are outside of the published application parameters.

Field Quality Control (QC) Inspections. The Contractor shall perform first line, in process QC inspections of each phase of the work. The Contractor shall implement the submitted and accepted QC Program to insure that the work accomplished complies with these specifications. The Contractor shall use the IDOT Quality Control Daily Report form supplied by the Engineer to record the results of quality control tests. The completed reports shall be turned into the Engineer before work resumes the following day.

The Contractor shall have available at the shop or on the field site, all of the necessary inspection and testing equipment. The equipment shall be available for Engineer use when requested.

Field Quality Assurance (QA) Observations. The Engineer will conduct QA observations of any or all phases of the work. The Engineer's observations in no way relieve the Contractor of the responsibility to provide all necessary daily QC inspections of his/her own and to comply with all requirements of this Specification.

The Engineer has the right to reject any work that was performed without adequate provision for QA observations.

The Engineer will issue a Non-Conformance Report when cleaning and painting work is found to be in violation of the specification requirements, and is not corrected to bring it into compliance before proceeding with the next phase of work.

Inspection Access and Lighting. The Contractor shall facilitate the Engineer's observations as required, including allowing ample time to view the work. The Contractor shall furnish, erect and move scaffolding or other mechanical equipment to permit close observation of all surfaces to be cleaned and painted. This equipment shall be provided during all phases of the work. Examples of acceptable access structures include:

- Mechanical lifting equipment, such as, scissor trucks, hydraulic booms, etc.
- Platforms suspended from the structure comprised of trusses or other stiff supporting members and including rails and kick boards.
- Simple catenary supports are permitted only if independent life lines for attaching a fall arrest system according to Occupational Safety and Health Administration (OSHA) regulations are provided.

When the surface to be inspected is more than 1.8 m (6 ft) above the ground or water surface, the Contractor shall provide the Engineer with a safety harness and a lifeline according to OSHA regulations. The lifeline and attachment shall not direct the fall into oncoming traffic.

The Contractor shall provide a method of attaching the lifeline to the structure independent of the inspection facility or any support of the platform. When the inspection facility is more than 800 mm (2 1/2 ft) above the ground, the Contractor shall provide an approved means of access onto the platform.

The Contractor shall provide artificial lighting in areas where natural light is inadequate, as determined by the Engineer, to allow proper cleaning, inspection, and painting. Illumination for inspection shall be at least 325 LUX (30 foot candles). Illumination for cleaning and painting, including the working platforms, access, and entryways shall be at least 215 LUX (20 foot candles).

Construction Requirements. The Contractor shall be responsible for any damage caused to persons, vehicles, or property, except as indemnified by the Response Action Contractor Indemnification Act. Whenever the intended purposes of the protective devices are not being accomplished, as determined by the Engineer, work shall be immediately suspended until corrections are made. Painted surfaces damaged by any Contractor's operation shall be removed and repainted, as directed by the Engineer, at the Contractor's expense.

Surface and Weather Conditions. Surfaces to be painted after cleaning shall remain free of moisture and other contaminants. The Contractor shall control his/her operations to insure that dust, dirt, or moisture does not come in contact with surfaces cleaned or painted that day.

The surface temperature shall be at least 3°C (5°F) above the dew point during final surface preparation operations. The paint manufacturers' published literature shall be followed for specific temperature, dew point, and humidity restrictions during the application of each coat.

The Contractor shall monitor temperature, dew point, and humidity every 4 hours during surface preparation and coating application in the specific areas where the work is being performed. The frequency of monitoring shall increase if weather conditions are changing. The Engineer has the right to reject any work that was performed under unfavorable weather conditions. Rejected work shall be removed, recleaned, and repainted at the Contractor's expense.

Seasonal Restrictions on Field Cleaning and Painting. Field cleaning and painting work shall be accomplished between April 15 and October 31 unless authorized otherwise by the Engineer in writing.

Inorganic Zinc-rich Waterborne Acrylic Paint system.

In the shop, all structural steel designated to be painted shall be given one coat of inorganic zinc rich primer. Before the application of the intermediate coat, the prime coat and any newly installed fasteners shall be spot solvent cleaned per SSPC-SP 1 and all surfaces pressure washed to remove dirt, oil, lubricants, oxidation products, and foreign substances. Washing shall involve the use of potable water at a pressure between 7 MPa (1000 psi) and 34 MPa (5000 psi) and according to "Low Pressure Water Cleaning" of SSPC-SP12. Paint spray equipment shall not be used to perform the water cleaning. All damaged shop primed areas shall then be spot cleaned per SSPC-SP3 and spot primed with aluminum epoxy mastic. The structural steel shall then receive one full intermediate coat and one full topcoat of waterborne acrylic paint.

- a) Paint drips, spills, and overspray must be controlled. If containment is used to control paint drips, spills, and overspray, the containment shall be dropped and all equipment secured

when sustained wind speeds of 64 kph (40 mph) or greater occur. When the protective coverings need to be attached to the structure, they shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing.

- b) Coating Dry Film Thickness (dft), measured according to SSPC-PA2:
Zinc Primer: 75 microns (3 mils) min., 150 microns (6 mils) max.
Epoxy Mastic: 125 microns (5 mils) min., 180 microns (7 mils) max.
Intermediate Coat: 50 microns (2 mils) min., 100 microns (4 mils) max.
Topcoat: 50 microns (2 mils) min., 100 microns (4 mils) max.

The total dry film thickness, excluding the spot areas touched up with epoxy mastic, shall be between 180 and 355 microns (7 and 14 mils).

- c) When specified on the plans, or as requested by the Contractor and approved by the Engineer, the waterborne acrylic intermediate and topcoat shall be applied in the shop. The inorganic zinc rich primer shall be tested for proper cure per ASTM D 4752-87 "Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc Rich Primers By Solvent Rub" with a minimum resistance rating of 4 prior to application of the intermediate coat. The pressure washing requirement above may be waived if the QC and QA Inspectors verify the primed surfaces have not been contaminated.

Erection and handling damage to the shop applied system shall be spot cleaned using SSPC-SP3. The cleaned areas shall be spot painted with a penetrating sealer as recommended by the manufacturer, which shall overlap onto the existing topcoat. Then the aluminum epoxy mastic shall be spot applied not to go beyond the area painted with the sealer. The acrylic intermediate and topcoat shall be spot applied to the mastic with at least a 150 mm (6 inch) overlap onto the existing topcoat.

The paint manufacturer's product data sheets shall be available for QA review in the shop and submitted to the Engineer prior to start of field work. The requirements outlined in the data sheets shall be followed.

Special Instructions.

Painting Date/System Code. At the completion of the work, the Contractor shall stencil in contrasting color paint the date of painting the bridge, the painting Contractors name, and the paint type code from the Structure Information and Procedure Manual for the system used. The letters shall be capitals, not less than 50 mm (2 in.) and not more than 75 mm (3 in.) in height.

The stencil shall contain the following wording "PAINTED BY (insert the name of the painting Contractor)" and shall show the month and year in which the painting was completed, followed by "CODE S" all stenciled on successive lines. This information shall be stenciled on the cover plate of a truss end post near the top of the railing, or on the outside face of an outside stringer near both ends of the bridge facing traffic, or at some equally visible surface designated by the Engineer.

Method of Measurement. Shop cleaning and painting new structures will not be measured for payment. Field cleaning and painting will not be measured for payment except when performed under a contract that contains a separate pay item for this work.

Basis of Payment. This work will be paid for according to Article 506.07.

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 it's presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven through or around with normal driving procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary sheet piling will be measured for payment in place in square 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.

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 it's 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.

DRILLED SHAFTS

Effective: May 1, 2001

Revised: January 1, 2002

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 360 kg/cu m (605 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 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.
- (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 washed sand only.

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/cement ratio shall be 1.0.
- (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.

UNDERWATER STRUCTURE EXCAVATION PROTECTION

Effective: April 1, 1995

Revised: August 21, 2002

Description. This work shall include all labor, materials, and equipment necessary for the protection of any excavations in water that may be needed for construction at the locations shown on the plans and as required by the Specifications. The protection may consist of diverting the water for the excavation by the uses of timbers, sheet piling, approved granular embankment material or other structural elements adequate to support the excavation and need not be watertight. All concrete placement below the waterline shall be tremied underwater into forms according to Article 503.08 of the Standard Specifications. Tremied concrete shall be placed to an elevation 300 mm (1 ft) above the water level at the time of construction.

The Contractor's plan for the subject protection must be approved by the Engineer before excavation protection and construction may begin. Any system selected by the Contractor in which safe design and construction requires that loads and stresses be computed and the size and strength of parts determined by mathematical calculations based upon scientific principles and engineering data shall be prepared and sealed by an Illinois Licensed Structural Engineer. When the excavation protection is no longer required, it shall be removed unless otherwise specified by the Engineer. All materials removed will become the property of the Contractor.

Basis of Payment. Excavation protection for structures will be paid for at the contract unit price each, for UNDERWATER STRUCTURE EXCAVATION PROTECTION at the locations specified.

FABRIC REINFORCED ELASTOMERIC MAT

Effective: July 14,2000

Revised: September 12, 2003

Description. This work shall consist of furnishing and installing the fabric reinforced elastomeric mat as shown on the plans and as directed by the Engineer.

Materials. The elastomeric material requirements for the reinforced mat shall be according to the following:

The Elastomer Compound for the mat shall be according to AASHTO M 251 for Polychloroprene "50 duro", except the tensile strength shall be 10.3 MPa (1500 psi) minimum or it shall be (EPDM) ethylene propylene diene monomer according to Article 1052.02 of the Standard Specifications.

The composite of the fabric and elastomer shall have a minimum tensile strength of 122.6 x 122.6 N/mm (700 x 700 lb/in) according to ASTM D 378.

The minimum elongation at ultimate tensile strength shall be 30 percent according to ASTM D 412.

The minimum thickness of the reinforced mat shall be 3 mm (1/8 in.).

Threaded studs, washers and nuts shall be according to ASHTO M 164. Flattening plates shall be according to AASHTO M 270M, Grade 250 (M 270,Grade 36).

Method of Measurement. The fabric reinforced elastomeric mat and all hardware necessary to install the mat will not be measured for payment but shall be included in the concrete pay item involved.

BUILDING REMOVAL - CASE II (NON-FRIABLE ASBESTOS ABATEMENT) (BDE)

Effective: September 1, 1990

Revised: August 1, 2001

BUILDING REMOVAL: This item shall consist of the removal and disposal of 1 building(s), together with all foundations, retaining walls, and piers, down to a plane 300 mm (1 ft.) below the ultimate or existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. Any holes, such as basements, shall be filled with a suitable granular material. The building(s) are identified as follows:

<u>Bldg. No.</u>	<u>Parcel No.</u>	<u>Location</u>	<u>Description</u>
1	7007149	1 Wood Bird Dr.	Single family one-story home with basement. Removal includes all driveway pavements, sidewalks, out buildings and appurtances.

Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services that serve the building(s) according to the respective requirements and regulations of the City, County, or utility companies involved. The Contractor shall disconnect and seal, in an approved manner, all service outlets that serve any building(s) he/she is to remove.

Signs: Immediately upon execution of the contract and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:

PROPERTY ACQUIRED FOR
HIGHWAY CONSTRUCTION
TO BE DEMOLISHED BY THE

VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing. The Contractor shall not paint signs nor start demolition of any building(s) prior to the time that the State becomes the owner of the respective building(s).

The Contractor has the option of removing the non-friable asbestos prior to demolition or demolishing the building(s) with the non-friable asbestos in place. Refer to the Special Provisions titled "Asbestos Abatement (General Conditions)" and "Removal and Disposal of Non-Friable Asbestos Building No. 1" contained herein.

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein. The lump sum unit price(s) for this work shall represent the cost of demolition and disposal assuming all non-friable asbestos is removed prior to demolition. Any salvage value shall be reflected in the contract unit price for this item.

EXPLANATION OF BIDDING TERMS: Two separate contract unit price items have been established for the removal of each building. They are:

1. BUILDING REMOVAL NO. 1
2. REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 1

The Contractor shall have two options available for the removal and disposal of the non-friable asbestos.

The pay item for removal and disposal of non-friable asbestos will not be deleted regardless of the option chosen by the Contractor.

ASBESTOS ABATEMENT (GENERAL CONDITIONS): This work consists of the removal and disposal of non-friable asbestos from the building(s) to be demolished. All work shall be done according to the requirements of the U.S. Environmental Protection Agency (USEPA), the Illinois Environmental Protection Agency (IEPA), the Occupational Safety and Health Administration (OSHA), the Special Provision for "Removal and Disposal of Non-Friable Asbestos, Building No. 1," and as outlined herein.

Sketches indicating the location of Asbestos Containing Material (ACM) are included in the proposal on pages 172 thru 174. Also refer to the Materials Description Table on page 175 for a brief description and location of the various materials. Also included is a Materials Quantities Table on page 177. This table states the ACM is non-friable and gives the approximate quantity. The quantities are given only for information and it shall be the Contractor's responsibility to determine the exact quantities prior to submitting his/her bid.

The work involved in the removal and disposal of non-friable asbestos if done prior to demolition, shall be performed by a Contractor or Sub-Contractor prequalified with the Illinois Capital Development Board.

The Contractor shall provide a shipping manifest, similar to the one shown on pages 80 thru 82, to the Engineer for the disposal of all ACM wastes.

Permits: The Contractor shall apply for permit(s) in compliance with applicable regulations of the Illinois Environmental Protection Agency. Any and all other permits required by other federal, state, or local agencies for carrying on the work shall be the responsibility of the Contractor. Copies of the permit(s) shall be sent to the district office and the Engineer.

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least 10 days prior to commencement of any asbestos removal or demolition activity. Separate notices shall be sent for the asbestos removal work and the building demolition if they are done as separate operations.

Asbestos Demolition/Renovation Coordinator
Illinois Environmental Protection Agency
Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276
(217) 785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittals:

- A. All submittals and notices shall be made to the Engineer except where otherwise specified herein.
- B. Submittals that shall be made prior to start of work:
 1. Submittals required under Asbestos Abatement Experience.
 2. Submit documentation indicating that all employees have had medical examinations and instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures as specified in Worker Protection Procedures.
 3. Submit manufacturer's certification stating that vacuums, ventilation equipment, and other equipment required to contain airborne fibers conform to ANSI 29.2.
 4. Submit to the Engineer the brand name, manufacturer, and specification of all sealants or surfactants to be used. Testing under existing conditions will be required at the direction of the Engineer.

5. Submit proof that all required permits, site locations, and arrangements for transport and disposal of asbestos-containing or asbestos-contaminated materials, supplies, and the like have been obtained (i.e., a letter of authorization to utilize designated landfill).
 6. Submit a list of penalties, including liquidated damages, incurred through non-compliance with asbestos abatement project specifications.
 7. Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination units, the sequencing of work, the respiratory protection plan to be used during this work, a site safety plan, a disposal plan including the location of an approved disposal site, and a detailed description of the methods to be used to control pollution. The plan shall be submitted to the Engineer prior to the start of work.
 8. Submit proof of written notification and compliance with the "Notifications" paragraph.
- C. Submittals that shall be made upon completion of abatement work:
1. Submit copies of all waste chain-of-custodies, trip tickets, and disposal receipts for all asbestos waste materials removed from the work area;
 2. Submit daily copies of work site entry logbooks with information on worker and visitor access;
 3. Submit logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls; and
 4. Submit results of any bulk material analysis and air sampling data collected during the course of the abatement including results of any on-site testing by any federal, state, or local agency.

Certificate of Insurance:

- A. The Contractor shall document general liability insurance for personal injury, occupational disease and sickness or death, and property damage.
- B. The Contractor shall document current Workmen's Compensation Insurance coverage.
- C. The Contractor shall supply insurance certificates as specified by the Department.

Asbestos Abatement Experience:

- A. Company Experience. Prior to starting work, the Contractor shall supply evidence that he/she has been prequalified with the Illinois Capital Development Board and that he/she has been included on the Illinois Department of Public Health's list of approved Contractors.
- B. Personnel Experience:
 1. For Superintendent, the Contractor shall supply:

- a. Evidence of knowledge of applicable regulations in safety and environmental protection is required as well as training in asbestos abatement as evidenced by the successful completion of a training course in supervision of asbestos abatement as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to the Engineer prior to the start of work.
 - b. Documentation of experience with abatement work in a supervisory position as evidenced through supervising at least two asbestos abatement projects; provide names, contact, phone number, and locations of two projects in which the individual(s) has worked in a supervisory capacity.
2. For workers involved in the removal of asbestos, the Contractor shall provide training as evidenced by the participation and successful completion of an accredited training course for asbestos abatement workers as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to all employees who will be working on this project.

ABATEMENT AIR MONITORING: The Contractor shall comply with the following:

- A. Personal Monitoring. All personal monitoring shall be conducted per specifications listed in OSHA regulation, Title 29, Code of Federal Regulation 1926.58. All area sampling shall be conducted according to 40 CFR Part 763.90. All air monitoring equipment shall be calibrated and maintained in proper operating condition. Excursion limits shall be monitored daily. Personal monitoring is the responsibility of the contractor. Additional personal samples may be required by the Engineer at any time during the project.
- B. Interior Non-Friable Asbestos-Containing Materials. The contractor shall perform personal air monitoring during removal of all non-friable Transite and floor tile removal operations. The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.
- C. Exterior Non-Friable Asbestos-Containing Materials. The contractor shall perform personal air monitoring during removal of all non-friable cementitious panels, piping, roofing felts, and built up roofing materials that contain asbestos.

The contractor shall conduct down wind area sampling to monitor airborne fiber levels at a frequency of no less than three per day.

- D. Air Monitoring Professional
 1. All air sampling shall be conducted by a qualified Air Sampling Professional supplied by the contractor. The Air Sampling Professional shall submit documentation of successful completion of the National Institute for Occupational Safety and Health (NIOSH) course #582 - "Sampling and Evaluating Airborne Asbestos Dust".
 2. Air sampling shall be conducted according to NIOSH Method 7400. The results of these tests shall be provided to the Engineer within 24 hours of the collection of air samples.

REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 1: The Contractor has the option of removing and disposing of the non-friable asbestos prior to demolition of the building(s) or demolishing the building(s) with the non-friable asbestos in place.

Option #1 - If the Contractor chooses to remove all non-friable asbestos prior to demolition, the work shall be done according to the Special Provision titled "Asbestos Abatement (General Conditions)".

Option #2 - If the Contractor chooses to demolish the building(s) with the non-friable asbestos in place, the following provisions shall apply:

1. Continuously wet all non-friable ACM and other building debris with water during demolition.
2. Dispose of all demolition debris as asbestos containing material by placing it in lined, covered transport haulers and placing it in an approved landfill.

This work will be paid for at the contract unit price per lump sum for REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 1, as shown.

The cost for this work shall be determined as follows:

Option #1 - Actual cost of removal and disposal of non-friable asbestos.

Option #2 - The difference in cost between removing and disposing of the building if all non-friable asbestos is left in place and removing and disposing of the building assuming all non-friable asbestos is removed prior to demolition.

The cost of removing and disposing of the building(s), assuming all non-friable asbestos is removed first, shall be represented by the pay item "BUILDING REMOVAL NO. 1".

Regardless of the option chosen by the Contractor, this pay item will not be deleted, nor will the pay item BUILDING REMOVAL NO. 1 be deleted.

SHIPPING MANIFEST
 Generator

1. Work Site Name and Mailing Address	Owner's Name	Owner's Telephone No.
2. Operator's Name and Address		Operator's Telephone No
3. Waste Disposal Site (WDS) Name Mailing Address, and Physical Site Location		WDS Telephone No.
4. Name and Address of Responsible Agency		
5. Description of Materials		
6. Containers	No.	Type
7. Total Quantity	M ³	(Yd ³)
8. Special Handling Instructions and Additional Information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/Typed Name & Title	Signature	Month Day Year

Transporter

10. Transporter 1 (Acknowledgement of Receipt of Materials)		
Printed/Typed Name & Title	Signature	Month Day Year
Address and Telephone No.		
11. Transporter 2 (Acknowledgement of Receipt of Materials)		
Printed/Typed Name & Title	Signature	Month Day Year
Address and Telephone No.		

Disposal Site

12. Discrepancy Indication Space		
13. Waste Disposal Site Owner or Operator: Certification of Receipt of Asbestos Materials Covered By This Manifest Except As Noted in Item 12		
Printed/Typed Name & Title	Signature	Month Day Year

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the Company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4. Provide the name and address of the local, State, or EPA Regional Office responsible for administering the asbestos NESHAP program.
5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is
 - Friable asbestos material
 - Nonfriable asbestos material
6. Enter the number of containers used to transport the asbestos materials listed in Item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - DM - Metal drums, barrels
 - DP - Plastic drums, barrels
 - BA - 6 mil plastic bags or wrapping
7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.
9. The authorized agent of the waste generator shall read and then sign and date this certification. The date is the date of receipt by transporter.

NOTE: The waste generator shall retain a copy of this form.

INSTRUCTIONS

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport.

NOTE: The transporter shall retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS shall note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.

13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in Item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS shall retain a completed copy of this form. The WDS shall also send a completed copy to the operator listed in Item 2.

BUILDING REMOVAL - CASE IV (NO ASBESTOS) (BDE)

Effective: September 1, 1990

Revised: August 1, 2001

BUILDING REMOVAL: This item shall consist of the removal and disposal of 1 building(s), together with all foundations, retaining walls, and piers, down to a plane 300 mm (1 ft.) below the ultimate or existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. Any holes, such as basements, shall be filled with a suitable granular material. The building(s) are identified as follows:

<u>Bldg. No.</u>	<u>Parcel No.</u>	<u>Location</u>	<u>Description</u>
2	7007155	140' Rt. Sta. 1029+70	1216 S.F. – 1 Floor house w/Full Basement. 576 S.F. Detached Garage

Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services that serve the building(s) according to the respective requirements and regulations of the City, County, or utility companies involved. The Contractor shall disconnect and seal, in an approved manner, all service outlets that serve any building(s) he/she is to remove.

Signs: Immediately upon execution of the contract and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:

PROPERTY ACQUIRED FOR
HIGHWAY CONSTRUCTION
TO BE DEMOLISHED BY THE

VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing. The Contractor shall not paint signs nor start demolition of any building(s) prior to the time that the State becomes the owner of the respective building(s).

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein. The lump sum unit price(s) for this work shall represent the cost of demolition. Any salvage value shall be reflected in the contract unit price for this item.

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least 10 days prior to commencement of any demolition activity.

Asbestos Demolition/Renovation Coordinator
Illinois Environmental Protection Agency
Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276
(217)785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittals:

- A. All submittals and notices shall be made to the Engineer except where otherwise specified herein.
- B. Prior to starting work, the Contractor shall submit proof of written notification and compliance with the "Notifications" paragraph.

INTERNET ACCESSIBILITY

The contractor will provide Internet Accessibility to the Bituminous Plant Quality Control Lab so the Bituminous Plant Reports can be e-mailed to the District Headquarters. This work shall be included in the cost of all bituminous items.

CONCRETE FOUNDATION, TYPE D (SPECIAL)

This work shall consist of furnishing and installing a concrete foundation, in accordance with Section 878 of the Standard Specifications.

This work will be paid for at the contract unit price per FOOT for CONCRETE FOUNDATION, TYPE D (SPECIAL).

ISLAND PAVEMENT REMOVAL AND REPLACEMENT

Remove existing concrete island at the location shown on the plans. This work shall include the removal of island surfaces and the perimeter curb and gutter. Removals shall include entire structure, including buried portions. Any existing tie bars between the existing island and existing concrete pavement shall be protected from damage during removal. Removals to be in accordance with Article 440.02. Disposal to be in accordance with Article 440.06.

Replace with portland cement concrete pavement, full depth of removal. Existing tie bars shall be straightened and cleaned before being incorporated into new construction. New pavement to be placed in accordance with Article 420.

This work shall be measured for payment in place and paid for at the contract unit price per SQUARE FEET for ISLAND PAVEMENT REMOVAL AND REPLACEMENT, which price shall include removal and disposal of the island surface and curb and gutter, new concrete pavement.

ADJUSTING FRAMES AND GRATES (BDE)

Effective: August 1, 2001

Revised: November 1, 2001

Add the following to Article 602.02 of the Standard Specifications:

- “(k) High Density Polyethylene (HDPE) Plastic Note 2
- |(l) Recycled Rubber..... Note 3

Note 2. HDPE plastic adjusting rings may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 75 mm (3 in.). They shall be installed and sealed underneath the frames according to the manufacturer’s specifications.

HDPE plastic adjusting rings shall be manufactured from Class B HDPE plastic, as identified in ASTM D 1248, using the injection molding process. They shall be designed and tested to meet or exceed an HS25 wheel load according to the AASHTO Standard Specifications for Highway Bridges and shall be stabilized against the effects of ultra violet light.

Recycled material may be used. If recycled material is used, only polyethylene and less than two percent polypropylene will be allowed in the reclaim process. All feed stock shall be tested by the manufacturer on a procurement/production batch basis to verify the following property values:

Physical Property	Test Standard	Value
Melt Flow Index	ASTM D 1238	0.30 to 30.0 g/10 min (0.01 to 1.06 oz/10 min)
Specific Gravity	ASTM D 792	0.84 to 0.98
Tensile Strength, Yield	ASTM D 638	13,800 kPa (2000 psi) minimum

HDPE plastic adjusting rings shall have no void areas, cracks, or tears, and have no effects due to exposure to ultraviolet light. Ripples or sags are limited to less than ten percent of the surface. The actual diameter or length shall not vary more than 3 mm (0.125 in.) from the specified diameter or length. Variations in height are limited to ± 1.6 mm (0.063 in.) for parts up to 50 mm (2 in.) or ± 3 mm (0.125 in.) for parts from 50 mm (2 in.) to 75 mm (3 in.). Variations shall not exceed 6 mm (0.25 in.) from flat (dish, bow or convoluting edge) or 3 mm (0.125 in.) for bulges or dips in the surface.

Note 3. Riser rings fabricated from recycled rubber may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 50 mm (2 in.). They shall be installed and sealed underneath the frames according to the manufacturer's specifications.

Recycled rubber products shall consist of no less than 80 percent by weight recycled rubber. The riser shall meet or exceed the following when maintained at $23 \pm 2^\circ\text{C}$ ($73 \pm 3^\circ\text{F}$) for at least 24 hours prior to and during testing.

Physical Property	Test Standard	Value
Density	ASTM C 642-90	1.10 ± 0.034 g/cu cm (68.63 ± 2.11 lb/cu ft)
Durometer Hardness	ASTM D 2240-97 Shore A	72 ± 6^1
Compression Deformation under 1000 kPa (145 psi)	ASTM D 575 – Test Method B Test of Specified Force	9 ± 4 %
Compression Set	ASTM D 395 – Illinois Modified Test Method B Compression Set under Constant Deflection in Air	5 ± 3 % ²

Weathering (70 hrs at 70 °C (158 °F)) Hardness retained	ASTM D 573	98 %, minimum
Freeze/thaw when exposed to deicing chemicals	ASTM C 672-91	3 % loss, maximum

¹Average of three tests over a 28 mm (1.12 in.) diameter sample.

²Samples compressed to 75 percent of initial height.

Recycled rubber adjusting rings shall have no void areas, cracks, or tears, and have no effects due to exposure to ultraviolet light. The actual diameter or length shall not vary more than 3 mm (0.125 in.) from the specified diameter or length. Variations in height are limited to ± 1.6 mm (0.063 in.) for parts up to 50 mm (2 in.)."

Revise Article 603.08 of the Standard Specifications to read:

“603.08 Adjusting Rings. As an option to Articles 603.03 through 603.07, the adjustment of frames and grates may be accomplished through the use of adjusting rings that fit on top of the frame. These adjusting rings shall be fabricated as a one-piece assembly from gray iron, ductile iron or structural steel. They shall provide a structural capacity equal to or greater than the existing frame and shall not affect the opening size or surface appearance. The rings shall have a device for positively positioning and fastening the ring to the existing frame to prevent movement under traffic.”

BITUMINOUS BASE COURSE / WIDENING SUPERPAVE

Effective: April 1, 2002

Revised: April 1, 2004

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 (Note3)"

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_t) 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 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	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.

Design Compactive Effort	Design Air Voids Target (%)
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 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 shall be plotted on the control charts within the following control limits:

Air Void Control Limits	
Mixture	Individual Test
Shoulders	± 1.2 %
Others	± 1.2 %"

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 CONCRETE SURFACE COURSE (BDE)

Effective: April 1, 2001

Revised: April 1, 2003

Replace the fourth paragraph of Article 406.23(b) of the Standard Specifications with the following:

"Mixture for cracks, joints, flangeways, leveling binder (machine method), leveling binder (hand method) and binder course in excess of 103 percent of the quantity specified by the Engineer will not be measured for payment.

Surface course mixture in excess of 103 percent of adjusted plan quantity will not be measured for payment. The adjusted plan quantity for surface course mixtures will be calculated as follows:

Adjusted Plan Quantity = C x quantity shown on the plans or as specified by the Engineer.

where C = metric: $C = \frac{G_{mb} \times 24.99}{U}$ English: $C = \frac{G_{mb} \times 46.8}{U}$

and where:

G_{mb} = average bulk specific gravity from approved mix design.

U = Unit weight of surface course shown on the plans in kg/sq m/25 mm (lb/sq yd/in.), used to estimate plan quantity.

24.99 = metric constant.

46.8 = English constant.

If project circumstances warrant a new surface course mix design, the above equations shall be used to calculate the adjusted plan quantity for each mix design using its respective average bulk specific gravity."

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.”

BRIDGE DECK CONSTRUCTION (BDE)

Effective: April 1, 2002

Revised: April 1, 2004

Add the following to Article 503.03 of the Standard Specifications:

“(h).Fogging Equipment.....1103.17(k)”

Add the following after the first sentence of the second paragraph to Article 503.07 of the Standard Specifications:

“When placing Class BD concrete, the discharge end of the pump shall have attached an “S” shaped flexible or rigid conduit, a 90 degree elbow with a minimum of 3 m (10 ft) of flexible conduit placed parallel to the deck, or a similar configuration approved by the Engineer.”

Add the following after the second sentence of the ninth paragraph of Article 503.07 of the Standard Specifications:

“When consolidating concrete in bridge decks, the vibrator shall be vertically inserted into the concrete for 3 - 5 seconds, or for a period of time determined by the Engineer.”

Add the following after the first paragraph of Article 503.17 of the Standard Specifications:

“For the bridge deck pour, fogging equipment shall be in operation unless the evaporation rate is less than 0.5 kg/sq m/hour (0.1 lb/sq ft/hour) and the Engineer gives permission to turn off the equipment. The evaporation rate shall be determined according to the figure in the Portland Cement Association’s publication, “Design and Control of Concrete Mixtures” (refer to the section on plastic shrinkage cracking). The Contractor shall provide temperature, relative humidity, and wind speed measuring equipment.

The fogging equipment shall be adjusted to adequately cover the entire width of the pour.

If there is a delay of more than ten minutes during bridge deck placement, wet burlap shall be used to protect the concrete until operations resume.

Concrete placement operations shall be coordinated to limit the distance between the point of concrete placement and concrete covered with cotton mats for curing. The distance shall not exceed 10.5 m (35 ft). For bridge deck widths greater than 15 m (50 ft), the distance shall not exceed 7.5 m (25 ft)."

Add the following to the end of the first paragraph of Article 503.17(b) of the Standard Specifications to read:

"The concrete in these areas shall be struck off during the deck pour and excess material from the finishing machine shall not be incorporated."

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 in.) sieve for gradation CA 7 to "45±15^{4/ 9/}".

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 in.) sieve for gradation CA 11 to "45±15^{6/ 9/}".

Add the following to the Coarse Aggregate Gradation table of the Standard Specifications:

"9/ When Class BD concrete is to be pumped, the coarse aggregate gradation shall have a minimum of 45 percent passing the 12.5 mm (1/2 in.) sieve. The Contractor may combine two or more coarse aggregate sizes, consisting of CA-7, CA-11, CA-13, CA-14, and CA-16, provided a CA-7 or CA-11 is included in the blend."

Revise Article 1020.05(d) of the Standard Specifications to read:

"(d)Class BD Concrete. The maximum mortar factor shall be 0.86."

Add the following to Article 1103.17 of the Standard Specifications:

"(k) Fogging Equipment. Fogging equipment shall consist of a mechanically operated, pressurized system using a triple headed nozzle or an equivalent nozzle. The fogging nozzle shall be capable of producing a fine fog mist that will increase the relative humidity of the air just above the fresh concrete surface without accumulating any water on the concrete. The fogging equipment shall be mounted behind the roller and pan of finishing machine or on a separate foot bridge. Controls shall be designed to vary the volume of water flow, be easily accessible and immediately shut off the water when in the off position. Hand held fogging equipment will not be allowed."

BUTT JOINTS (BDE)

Effective: April 1, 2004

Revise Article 406.18 of the Standard Specifications to read:

"**406.18 Butt Joints.** Butt joints shall be constructed according to the details shown on the plans. The surface removal shall be performed according to Section 440. Construction of butt joints shall not begin prior to beginning general operations on the project.

When butt joints are to be constructed under traffic, temporary ramps shall be constructed and maintained at both the upstream and downstream ends of the surface removal areas immediately upon completion of the surface removal operation. The temporary ramps shall be constructed by the following methods.

- (a) Temporary Bituminous Ramps. Temporary bituminous ramps shall have a minimum taper rate of 1:40 (V:H). The bituminous material used shall meet the approval of the Engineer. Cold-milled bituminous tailings will not be acceptable.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 45 mph or less. The ramps shall have a minimum taper rate of 1:30 (V:H). The leading edge of the rubber ramp shall have a maximum thickness of 6 mm (1/4 in.) and the trailing edge shall match the height of the adjacent pavement \pm 6 mm (1/4 in.).

The rubber material shall conform to the following:

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	80 \pm 10
Tensile Strength	ASTM D 412	5500 kPa (800 psi) min.
Elongation, percent	ASTM D 412	100 min.
Specific Gravity	ASTM D 297	1.1-1.3
Brittleness	ASTM D 746	-40 °C (-40 °F)

The rubber ramps shall be installed according to the manufacturer's specifications and fastened with the anchors provided. Rubber ramps that fail to stay in place or create a traffic hazard shall be replaced immediately with temporary bituminous ramps at the Contractor's expense.

The temporary ramps shall be removed just prior to placing the proposed surface course. If work is suspended for the winter season prior to completion of surface course construction, precut butt joints shall be filled to the elevation of the existing pavement surface with compacted bituminous concrete surface course or binder course."

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 µm (No. 200) sieve shall be 2 ± 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)”

CONTROLLED AGGREGATE MIXING SYSTEM (BDE)

Effective: November 1, 2002

Revise the fourth sentence of the first paragraph of Article 311.05(b) of the Standard Specifications to read:

“The water and granular material shall be mixed through a controlled aggregate mixing system. The system shall consist of a mechanical mixing device and aggregate and water measuring devices, meeting the approval of the Engineer.”

Revise the third and fourth sentences of the fourth paragraph of Article 351.05(b) of the Standard Specifications to read:

“The water and aggregate shall be mixed through a controlled aggregate mixing system. The system shall consist of a mechanical mixing device and aggregate and water measuring devices, meeting the approval of the Engineer.”

Delete the third sentence of the first paragraph of Article 351.05(c) of the Standard Specifications.

Revise the second and third sentences of the first paragraph of Article 481.04(a) of the Standard Specifications to read:

“The water and aggregate shall be mixed through a controlled aggregate mixing system. The system shall consist of a mechanical mixing device and aggregate and water measuring devices, meeting the approval of the Engineer.”

CORRUGATED METAL PIPE CULVERTS (BDE)

Effective: August 1, 2003

Revised: July 1, 2004

Revise the fourth paragraph of Article 542.04(d) of the Standard Specifications to read:

“When corrugated steel or aluminum alloy culvert pipe (including bituminous coated steel or aluminum and pre-coated steel) is used, the pipe shall be placed such that the longitudinal lap is placed at the sides and separate sections of pipe shall be joined with a hugger-type band. When the pipes are fabricated with a smooth sleeve-type coupler, the gasket shall meet the requirements of Article 1006.01.”

Add the following paragraph after the first paragraph of Article 1006.01 of the Standard Specifications:

“Round pipes 1200 mm (48 in.) in diameter and smaller may be fabricated with a smooth sleeve-type coupler. Gasket material on the smooth sleeve-type coupler shall be polyisoprene or equal with a durometer hardness of 45±5 (ASTM D 2240, Shore A). Pipe used with smooth

sleeve-type couplers shall contain a homing mark that indicates when the joint is tight. The homing mark shall consist of a painted stripe around the circumference of the male end of the pipe.”

Delete the last sentence of the first paragraph of Article 1006.01(a) of the Standard Specifications.

Add the following paragraph after the first paragraph of Article 1006.03 of the Standard Specifications:

“Round pipes 1200 mm (48 in.) in diameter and smaller may be fabricated with a smooth sleeve-type coupler. Gasket material on the smooth sleeve-type coupler shall be polyisoprene or equal with a durometer hardness of 45±5 (ASTM D 2240, Shore A). Pipe used with smooth sleeve-type couplers shall contain a homing mark that indicates when the joint is tight. The homing mark shall consist of a painted stripe around the circumference of the male end of the pipe.”

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.

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
Cast-in-Place Concrete: ^{11/}			
Pavement			
Shoulder	1020.13(a)(1)(2)(3)(4)(5) ^{3/ 5/}	3	1020.13(c)
Base Course			
Base Course Widening	1020.13(a)(1)(2)(3)(4)(5) ^{1/ 2/}	3	1020.13(c)
Driveway			
Median			
Curb			
Gutter	1020.13(a)(1)(2)(3)(4)(5) ^{4/ 5/}	3	1020.13(c) ^{16/}
Curb and Gutter			
Sidewalk			
Slope Wall			
Paved Ditch			
Catch Basin			
Manhole	1020.13(a)(1)(2)(3)(4)(5) ^{4/}	3	1020.13(c)
Inlet			
Valve Vault			
Pavement Patching	1020.13(a)(1)(2)(3)(4)(5) ^{2/}	3 ^{12/}	1020.13(c)
Pavement Replacement	1020.13(a)(1)(2)(3)(4)(5) ^{1/ 2/}	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) ^{4/6/}	7	1020.13(e)(1)(2)(3)
Substructure	1020.13(a)(1)(2)(3)(4)(5) ^{1/7/}	7	1020.13(e)(1)(2)(3)
Superstructure (except deck)	1020.13(a)(1)(2)(3)(5) ^{8/}	7	1020.13(e)(1)(2)
Deck	1020.13(a)(5)	7	1020.13(e)(1)(2) ^{17/}
Retaining Walls	1020.13(a)(1)(2)(3)(4)(5) ^{1/7/}	7	1020.13(e)(1)(2)
Pump Houses	1020.13(a)(1)(2)(3)(4)(5) ^{1/}	7	1020.13(e)(1)(2)
Culverts	1020.13(a)(1)(2)(3)(4)(5) ^{4/6/}	7	1020.13(e)(1)(2) ^{18/}
Other Incidental Concrete	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
Precast Concrete: ^{11/}			
Bridge Beams			
Piles			
Bridge Slabs	1020.13(a)(3)(5) ^{9/10/}		As required. ^{13/} 504.06(c)(6), 1020.13(e)(2) ^{19/}
Nelson Type Structural Member			
All Other Precast Items	1020.13(a)(3)(4)(5) ^{2/9/10/}		As required. ^{14/} 504.06(c)(6), 1020.13(e)(2) ^{19/}
Precast, Prestressed Concrete: ^{11/}			
All Items	1020.13(a)(3)(5) ^{9/10/}		Until strand tensioning is released. ^{15/} 504.06(c)(6), 1020.13(e)(2) ^{19/}

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 (BDE)

Effective: September 1, 2000

Revised: June 1, 2004

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. 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. 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.

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 federally-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the 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 4.0% 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.

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 nonresponsive.

- (a) In order to assure the timely award of the contract, the as-read low bidder must 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 as-read low 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 nonresponsive. In the event the bid is declared nonresponsive 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 prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors 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 contractor'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 contractor'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 Contractor 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 nonresponsive.

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 District 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.

EPOXY COATINGS FOR STEEL REINFORCEMENT (BDE)

Effective: April 1, 2003

Revise Article 1006.10(b)(2) of the Standard Specifications to read:

- “(2) Epoxy Coated Reinforcement Bars. Epoxy coated reinforcement bars shall conform to the requirements of AASHTO M 284M (M 284), except:
 - a. The maximum thickness of epoxy coating on spiral reinforcement, coated after fabrication, shall be 0.5 mm (20 mils).
 - b. No more than eight of the holidays permitted shall be in any 300 mm (1 ft) of length for continuity of coating.

The epoxy coating applicator shall be certified under the Concrete Reinforcing Steel Institute's (CRSI) Epoxy Plant Certification Program.

The epoxy coater shall provide access for the Engineer at any time during production or shipping. Random bars may be checked at the epoxy coater's facility or the jobsite for coating uniformity, thickness and discontinuity; cracks on the bends; and other damaged areas. Upon request, the coater shall provide samples for testing by the Engineer.

Bars may be sheared or sawn to length after coating, provided end damage to coating does not extend more than 15 mm (1/2 in.) back and the cut end is patched before any visible oxidation appears. Flame cutting will not be permitted."

Add the following paragraph after the first paragraph of Article 1006.11(b) of the Standard Specifications:

"The epoxy coating applicator shall be certified under the Concrete Reinforcing Steel Institute's (CRSI) Epoxy Plant Certification Program."

EPOXY COATING ON REINFORCEMENT (BDE)

Effective: April 1, 1997

Revised: January 1, 2003

For work outside the limits of bridge approach pavement, all references to epoxy coating in the Highway Standards and Standard Specifications for reinforcement, tie bars and chair supports will not apply for pavement, shoulders, curb, gutter, combination curb and gutter and median.

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.

FLAGGER VESTS (BDE)

Effective: April 1, 2003

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 Flagging. The flagger station shall be lit by additional overhead lighting other than streetlights. The flagger shall be equipped with a fluorescent orange or fluorescent orange and fluorescent yellow/green garment meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 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, 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.

LIGHT EMITTING DIODE (LED) SIGNAL HEAD (BDE)

Effective: April 1, 2002

Revised: August 1, 2003

Add the following paragraph to the end of Article 802.03 of the Standard Specifications:

“ The warranty for light emitting diode (LED) modules, including the maintained minimum luminous intensities, shall cover a minimum of 60 months from the date of delivery.”

Revise Article 880.01 of the Standard Specifications to read:

“ **880.01 Description.** This work shall consist of furnishing and installing a conventional signal head, optically programmed signal head or light emitting diode (LED) signal head.”

Revise Article 880.02(a) of the Standard Specifications to read:

“ (a) Signal Heads.....1078.01”

Revise the first sentence of the first paragraph of Article 880.03 of the Standard Specifications to read:

“ The signal head shall be installed on a post, bracket, span wire or mast arm as shown on the plans.”

Revise the first paragraph of Article 880.04 of the Standard Specifications to read:

“ **880.04 Basis of Payment.** This work will be paid for at the contract unit price each for SIGNAL HEAD, OPTICALLY PROGRAMMED SIGNAL HEAD, or SIGNAL HEAD, LED of the type specified and of the material type when specified.”

Revise Article 1078.01 of the Standard Specifications to read:

“ **1078.01 Signal Head, Optically Programmed Signal Head and Light Emitting Diode (LED) Signal Head.**”

Add the following to Article 1078.01(c) of the Standard Specifications:

“ (3) The LED signal section shall be according to the following:

a. **General Requirements.** The LED signal head shall meet the requirements of the Institute of Transportation Engineers (ITE) interim LED purchase specification, “Vehicle Traffic Control Signal Heads, Part 2: LED Vehicle Traffic Signal Modules”, or applicable successor ITE specifications, except as modified herein. The LEDs utilized in the modules shall not be Aluminum Gallium Arsenide (AlGaAs) material technology.

b. **Physical and Mechanical Requirements.** The power supply for the LED module shall be integrated with the unit.

c. **Photometric Requirements.** The candlepower values for yellow 300 mm (12 in.) circular modules shall be equal to the corresponding values for green 300 mm (12 in.) circular modules as listed in Table 1 of Section 4 of the aforementioned ITE specification based on normal use in traffic signal operation over the operating temperature range.

The illuminated portion of the arrow module shall be uniformly and completely dispersed with the LEDs.

d. **Electrical Requirements.** When applicable to the particular module type, the LED signal module shall be EPA Energy Star qualified. For yellow 300 mm (12 in.) circular and arrow modules, the wattage requirements shall be as follows:

Module Type	Maximum Watts (W) at 74 °C (165 °F)	Nominal Watts (W) at 25 °C (77 °F)
300 mm (12 in.) Yellow Circular	25	22
300 mm (12 in.) Yellow Arrow	12	10

The individual LEDs shall be wired such that a catastrophic loss or the failure of one LED will result in the loss of not more than 5 percent of the signal module light output.

e. **Warranty.** The LED modules shall be warrantied according to Article 802.03. The maintained minimum intensities for 300 mm (12 in.) arrow modules throughout the warranty period under the operating temperature and voltage range, and at the end of the warranty period shall not be less than the following values:

Module Type	Maintained Minimum Intensities (cd/sq m)
Red Arrow	5,000
Yellow Arrow	11,000
Green Arrow	11,000"

LIME GRADATION REQUIREMENTS (BDE)

Effective: November 1, 2002

Revise Articles 1012.03(e) and 1012.04(e) of the Standard Specifications to modify the maximum percent retained on the 150 µm (No. 100) sieve from "25" to "30".

LIME STABILIZED SOIL MIXTURE (BDE)

Effective: November 1, 2004

Revise Section 310 of the Standard Specifications to read:

"SECTION 310. LIME STABILIZED SOIL MIXTURE

310.01 Description. This work shall consist of the construction of a lime stabilized soil mixture, composed of soil, lime, and water which shall be considered as subbase.

310.02 Materials. Materials shall meet the requirements of the following Articles of Section 1000 - Materials:

Item	Article/Section
(a) Water.....	1002
(b) Hydrated Lime.....	1012.01
(c) By-Product, Non-Hydrated Lime (Note 1)	
(d) Lime Slurry (Note 2)	
(e) Soil (Note 3)	
(f) Bituminous Materials (Note 4)	1009.07, 1009.08, 1009.09

Note 1. By-product, non-hydrated lime (lime kiln dust) shall conform to the following requirements:

Parameter	Value
Total calcium and magnesium oxides (nonvolatile basis)	60 % minimum
Available calcium hydroxide (rapid sugar test, ASTM C 25) plus total MgO content calculated to be equivalent Ca (OH) ₂	30 % minimum
As received loss on ignition (carbon dioxide plus moisture, combined and free)	40 % maximum
Free water (as received basis)	4 % maximum
SO ₃	10 % maximum

The sieve analysis of the lime residue shall be as follows:

Sieve	Maximum Percent Retained
4.75 mm (No. 4)	5
600 μm (No. 30)	10
150 μm (No. 100)	30

Note 2. The lime used in the slurry shall be either hydrated lime conforming to the requirements of ASTM C 207, Type N, or quicklime conforming to the requirements for calcium lime as stated in ASTM C 5. The quantity of lime (hydrated lime or quicklime) in the slurry shall be a minimum of 35 percent and a maximum of 45 percent by total mass (weight) of slurry.

Note 3. The soil shall have a minimum clay content of 15 percent, determined according to AASHTO T 88; and shall have a maximum organic matter content of 10 percent, determined according to AASHTO T 194. It shall also be a reactive soil. A reactive soil is defined as a soil which when mixed thoroughly with at least three percent lime and then compacted and cured for 48 hours at 49 °C (120 °F), will exhibit a compressive strength gain of at least 345 kPa (50 psi) greater than that obtained from similarly prepared untreated control specimens. The compressive strength will be determined according to AASHTO T 208.

Note 4. The bituminous materials used for curing shall be emulsified asphalt RS-1, RS-2, CRS-1, CRS-2, HFE 60, HFE 90, or HFE 150; rapid curing liquid asphalt RC-70 or RC-250; or medium curing liquid asphalt MC-70 or MC-250.

310.03 Equipment. Equipment shall meet the requirements of the following Articles of Section 1100 - Equipment:

Item	Article/Section
(a) Rotary Speed Mixer	1101.06
(b) Disk Harrow (Note 1).....	1101.02
(c) Distributor (Note 2)	
(d) Lime Slurry Equipment (Note 3)	

Note 1. A disk harrow may be used when permitted by the Engineer.

Note 2. The distributor shall be of a mechanical type and shall be approved by the Engineer.

Note 3. The equipment used for mixing, transporting, slaking, and placing lime slurry shall be approved by the Engineer.

310.04 Proportioning. Proportioning shall be as follows.

- (a) Samples. Samples of the lime and the project soil(s) shall be obtained and submitted to the Engineer at least 45 days prior to the construction of the lime stabilized soil mixture. Sample sizes shall be a minimum of 12 kg (25 lb) for the lime and 90 kg (200 lb) for the project soil(s).

- (b) Mix Design. The actual proportions of lime, soil, and water will be determined by the Engineer prior to construction using the submitted samples. The Engineer reserves the right to make such adjustments in proportions as are considered necessary during the progress of the work.

In no case shall proportions or type of lime be changed during the progress of the work without permission by the Engineer.

CONSTRUCTION REQUIREMENTS

310.05 General. The lime stabilized soil mixture shall be constructed when the temperature of the soil measured 150 mm (6 in.) below the surface, is above 10 °C (50 °F), and the ambient air temperature in the shade is above 7 °C (45 °F).

The quantity of lime stabilized soil mixture constructed shall be limited to that which can be covered by the succeeding pavement layer during the same construction season.

310.06 Preparation of Subgrade. The area to be processed shall be shaped to the proper grade and cross section. All vegetation and other objectionable material shall be removed from within the limits of lime treatment. In cut or at grade sections, the subgrade shall be prepared according to Article 301.03, Steps 1 and 2. The subgrade shall be compacted adequately for the equipment to stabilize the soil.

310.07 Application of Lime. The lime (slurry or dry) shall be applied uniformly on the soil. The application of lime shall be limited to that area where the initial mixing operations can be completed during the same working day.

After application of dry lime, but before the addition of any water, the surface of the subgrade shall be lightly scarified or disked. When lime slurry is used, the surface of the subgrade shall be lightly scarified or disked prior to application of the slurry.

Dry lime shall not be applied when wind conditions are such that blowing lime becomes objectionable to adjacent property owners or creates a hazard to traffic on adjacent highways, as determined by the Engineer.

Lime slurry shall be applied within 30 days of preparing and mixing the slurry, and shall be thoroughly agitated prior to application.

Lime (slurry or dry) that has been exposed to the open air for a period of six hours or more shall be replaced. Lime (slurry or dry) which has been damaged by hydration due to rain prior to or during the mixing operations, or has been displaced by the Contractor's equipment or other traffic after application shall be replaced.

310.08 Mixing. Mixing shall be performed in two stages as follows:

- (a) Initial Mixing. The lime, soil, and water shall be thoroughly mixed until a uniform mixture throughout the required depth and width is obtained. All clods and lumps shall be reduced to a maximum size of 50 mm (2 in.). Water shall be added during the initial mixing operation to bring the moisture content of the stabilized soil to at least three percent above optimum.

After mixing, the surface shall be sealed with a light rolling. The mixture shall then be left to undergo a conditioning period of at least 48 hours. The mixture shall be maintained in a moist condition throughout the entire conditioning period.

- (b) Final Mixing. After the required conditioning period, the mixture shall be uniformly mixed and maintained at approximately optimum moisture content. If the mixture contains clods, they shall be pulverized to meet the following requirements:

Sieve Size	Minimum % Passing
25 mm (1in.)	100%
4.75 mm (No. 4)	60%

Mixing may be performed in a single stage when permitted by the Engineer, provided that the final mixing requirements are met.

310.09 Compaction. After final mixing, compaction shall be completed within the same working day.

The compacted, lime stabilized soil mixture shall have a minimum dry density of 95 percent of the laboratory standard dry density. The in-place dry density will be determined according to AASHTO T 191, or Illinois Modified AASHTO T 310 (Direct Transmission Density/Backscatter Moisture). The laboratory standard dry density will be determined according to AASHTO T 99.

310.10 Finishing and Curing. When compaction of the lime stabilized soil mixture is nearing completion, the surface shall be shaped to the required lines, grades, and cross section shown on the plans. For bituminous concrete base course and pavement (full-depth) and portland cement concrete base course and pavement, the surface of the lime stabilized soil mixture shall be brought to true shape and correct elevation according to Article 301.06, except that well compacted earth shall not be used to fill low areas. The surface shall be maintained in a moist condition by means of a fine spray during all finishing operations.

The lime stabilized soil mixture shall be cured for a period of seven days and maintained at optimum moisture content by sprinkling with water or applying bituminous materials according to Article 312.19. During this period, no equipment or traffic will be permitted on the completed work beyond that required for maintenance of curing.

310.11 Subgrade Stability. Following curing, the Engineer will determine the stability of the lime stabilized soil mixture in terms of the immediate bearing value (IBV) according to Illinois Test Procedure 501. The IBV shall be a minimum of 23.0.

No equipment or traffic shall be on the lime stabilized soil mixture after compaction until the required IBV is attained.

310.12 Construction Joints. Construction joints will not be required between each day's work unless there is a time lapse of seven days or more between the processing of adjacent sections. When construction joints are required, they shall be formed by cutting back 1 m (3 ft) into the completed work to form a vertical face. Otherwise, damage to completed work shall be avoided.

310.13 Maintenance. The lime stabilized soil mixture shall be maintained in a manner satisfactory to the Engineer. Maintenance shall include immediate repairs of any defective or damaged portions.

310.14 Method of Measurement. This work will be measured for payment as follows.

- (a) Contract Quantities. The requirements for the use of contract quantities shall conform to Article 202.07(a).
- (b) Measured Quantities. Processing lime stabilized soil mixture will be measured for payment in place and the area computed in square meters (square yards). The width of measurement will be as shown on the plans.

Lime will be measured for payment in metric tons (tons). The lime will be measured in trucks or freight cars. The Contractor shall furnish or arrange for use of scales of a type approved by the Engineer. When the lime is shipped in trucks, it will be measured at the place of loading, at the place of unloading, or at such other place as the Engineer may designate. The Engineer may accept original signed freight bills in lieu of determining the mass (weight).

Should the Contractor's method of construction require additional earth excavation or embankment due to requiring more than one lift to construct the lime stabilized soil mixture as shown on the plans, this extra earth excavation and embankment will not be measured for payment.

310.15 Basis of Payment. This work will be paid for at the contract unit price per square meter (square yard) for PROCESSING LIME STABILIZED SOIL MIXTURE, of the thickness specified; and per metric ton (ton) for LIME."

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.”

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."

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.

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.”

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”.”

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.

RAISED REFLECTIVE PAVEMENT MARKERS (BRIDGE) (BDE)

Effective: August 1, 2003

Add the following sentence to the end of the second paragraph of Article 781.03(a) of the Standard Specifications:

“The installed height for the reflective pavement markers shall be approximately 7.5 mm (0.3 in.) above the road surface.”

Revise Article 781.05 of the Standard Specifications to read:

“781.05 Basis of Payment. This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER, RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE), TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER, and REPLACEMENT REFLECTOR.”

Revise the first paragraph of Article 1096.01(b) of the Standard Specifications to read:

“(b) The overall dimensions for raised reflective pavement markers shall be approximately 254 mm (10 in.) long by 140 mm (5.5 in.) wide and a maximum of 45 mm (1.76 in.) high. The overall dimensions for bridge raised reflective pavement markers shall be approximately 235 mm (9.25 in.) long by 149 mm (5.86 in.) wide and a maximum of 32 mm (1.25 in.) high. The surface of the keel and web shall be free of scale, dirt, rust, oil, grease, or any other contaminant which may reduce the bond.”

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: November 1, 2004

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 coverage 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 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%”

Revise Table II of Article 1081.04(c)(6) of the Standard Specifications to read:

TABLE II						
Variety of Seeds	Hard Seed Percent Maximum	Purity Percent Minimum	Pure, Live Seed Percent Minimum	Weed Percent Maximum	Secondary Noxious Weeds No. per kg (oz) Max. Permitted*	Remarks
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/

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: July 1, 2004

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 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.....	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".
- (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 shall be plotted on the control charts within the following control limits:

Air Void Control Limits	
Mixture	Individual Test
Shoulders	± 1.2 %
Others	± 1.2 %"

Replace the first paragraph of Article 312.10 of the Standard Specifications with the following:

“312.10 Placing and Compacting. 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 Production312.08”

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 and Compacting. This work shall be according to Article 312.10. 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".

STONE FOR EROSION PROTECTION, SEDIMENT CONTROL, AND ROCKFILL (BDE)

Effective: January 1, 2004

Revise the first, second, and third sentences of Article 281.04(a) of the Standard Specifications to read:

"Class A1 bedding material shall be used with riprap Classes A4, A5, B4, and B5. Class A2 bedding material shall be used with riprap Classes A6, A7, B6, and B7. When filter fabric is used, the following substitutions of bedding material may be made: Quality B may be used in lieu of Quality A; Gradation CA 3 may be used in lieu of Gradation RR 1; and Gradation CA 1 may be used in lieu of Gradation RR 2."

Revise Article 1005.01 of the Standard Specifications to read:

"1005.01 Stone for Erosion Protection, Sediment Control, and Rockfill. The material will be sampled and inspected according to the Bureau of Materials and Physical Research's policy memorandum, "Inspection of Stone for Erosion Protection, Sediment Control, and Rockfill". The material shall meet the following requirements.

- (a) Description. The material shall be stone, quarried from undisturbed, consolidated deposits (ledges) of rock reasonably free of shale and shaly stone. The ledges shall be sufficiently thick to produce the desired dimensions. The stone shall be reasonably free of laminations, seams, cracks, and other structural defects or imperfections tending to destroy its resistance to weather. Field stone or boulders will not be accepted.

Bedding material shall be crushed stone, crushed gravel, crushed sandstone, or crushed slag meeting the requirements of Article 1004.01(a).

(b) Quality. The stone shall meet the following quality requirements.

(1) Stone for Erosion Protection or Sediment Control. The material shall be quarried from ledges meeting the quality designations listed in the following table.

QUALITY OF STONE FOR EROSION PROTECTION AND SEDIMENT CONTROL		
QUALITY TEST	QUALITY A ^{2/ 3/ 4/}	QUALITY B ^{2/}
Na ₂ SO ₄ Soundness 5 Cycle, AASHTO T 104 ^{1/} Max. % Loss	15	25

1/ As modified by the Department.

2/ Elongated pieces (length is greater than five times the average thickness) shall not exceed ten percent by weight.

3/ The stone, when checked in a full gradation product, shall have a specific gravity (dry) greater than 2.450 as determined by the Department.

4/ The stone shall be reasonably free of chert.

In addition to the above quality requirements, crushed slag used as a bedding material shall also meet the Department's "Test for Leachate".

(2) Stone for Rockfill. The material shall be quarried from ledges consisting of sound, durable rock reasonably free of objectionable, deleterious material as determined by the Department.

(c) Gradation. The stone shall meet the following gradation requirements.

(1) Stone for Erosion Protection or Sediment Control. The material shall meet the gradation limits listed in the following tables. All gradations produced shall be well graded.

BEDDING MATERIAL GRADATIONS					
GRAD. NO.	Percent Passing Sieves				
	100 mm	75 mm	50 mm	37.5 mm	4.75 mm
RR 1		100		53±23	8±8
RR 2	100		53±23		8±8

BEDDING MATERIAL GRADATIONS (ENGLISH)					
GRAD. NO.	Percent Passing Sieves				
	4 in.	3 in.	2 in.	1 1/2 in.	No. 4
RR 1		100		53±23	8±8
RR 2	100		53±23		8±8

EROSION PROTECTION AND SEDIMENT CONTROL GRADATIONS														
Grad. No.	Percent Passing Rock Size (kg)													
	455 ^{1/}	270 ^{1/}	180 ^{1/}	135	75	70 ^{1/}	40	20 ^{1/}	18	5	4	3	1	0.5
RR 3								100			50±20			8±8
RR 4						100			50±20					8±8
RR 5			100				50±20						8±8	
RR 6		100			50±20							8±8		
RR 7	100			50±20						8±8				

EROSION PROTECTION AND SEDIMENT CONTROL GRADATIONS														
Grad. No.	Percent Passing Rock Size (lb)													
	1000 ^{1/}	600 ^{1/}	400 ^{1/}	300	170	150 ^{1/}	90	50 ^{1/}	40	12	10	6	3	1
RR 3								100			50±20			8±8
RR 4						100			50±20					8±8
RR 5			100				50±20						8±8	
RR 6		100			50±20							8±8		
RR 7	100			50±20						8±8				

1/ Five percent by weight may be oversize. Each oversize piece shall not exceed the maximum size of the gradation by more than 20 percent.

(2) Stone for Rockfill. The material may be shot rock, primary crusher run, or other specified gradations 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 Ndesign ≥ 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 ± 3 °C (325 ± 5 °F) and a gyratory compaction temperature of 152 ± 3 °C (305 ± 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 Gyrotory 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)^{1/}								
Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm^{4/}		IL-9.5 mm^{4/}	
	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 ^{2/}	24	50 ^{2/}	28	65	28	65
2.36 mm (#8)	16	31	20	36	28	48 ^{3/}	28	48 ^{3/}
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 ≥ 90.
- 3/ The mixture composition shall not exceed 40 percent passing the 2.36 mm (#8) sieve for surface courses with Ndesign ≥ 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 μm (#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.

TABLE 2. VOLUMETRIC REQUIREMENTS					
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum				Voids Filled with Asphalt (VFA), %
	IL-25.0	IL-19.0	IL-12.5	IL-9.5	
50	12.0	13.0	14.0	15	65 - 78
70					65 - 75
90					
105					

- (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.

TABLE 3. REQUIRED PLANT TESTS for SUPERPAVE		
Parameter	Frequency of Tests	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), 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 µm (#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 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 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:

TABLE 4 – MINIMUM COMPACTED LIFT THICKNESS	
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:

TABLE 5 – LEVELING BINDER	
Nominal, Compacted, Leveling Binder Thickness, mm (in.)	Mixture
≤ 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:

TABLE 6. DENSITY CONTROL LIMITS		
Mixture	Parameter	Individual Test
12.5 mm / 9.5 mm	N _{design} ≥ 90	92.0 – 96.0%
12.5 mm / 9.5 mm	N _{design} < 90	92.5 – 97.4%
19.0 mm / 25.0 mm	N _{design} ≥ 90	93.0 – 96.0%
19.0 mm / 25.0 mm	N _{design} < 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.

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.”

TEMPORARY EROSION CONTROL (BDE)

Effective: November 1, 2002

Revise the fifth sentence of the third paragraph of Article 280.04(a) of the Standard Specifications to read:

“This work may be constructed of hay or straw bales, extruded UV resistant high density polyethylene panels, erosion control blanket, mulch barrier, aggregate barriers, excavation, seeding, or mulch used separately or in combination, as approved, by the Engineer.”

Add the following paragraphs after the fifth paragraph of Article 280.04(a) of the Standard Specifications.

“A ditch check constructed of extruded, UV resistant, high density polyethylene panels, “M” pins and erosion control blanket shall consist of the following materials:

Extruded, UV resistant, high density polyethylene panels shall have a minimum height of 250 mm (10 in.) and minimum length of 1.0 m (39.4 in.). The panels shall have a 51 mm (2 in.) lip along the bottom of the panel. Each panel shall have a single rib thickness of 4 mm (5/32 in.) with a 12 mm (1/2 in.) distance between the ribs. The panels shall have an average apparent opening size equal to 4.75 mm (No. 4) sieve, with an average of 30 percent open area. The tensile strength of each panel shall be 26.27 kN/m (1800 lb/ft) in the machine direction and 7.3 kN/m (500 lb/ft) in the transverse direction when tested according to ASTM D 4595.

“M” pins shall be at least 76 mm (3 in.) by 686 mm (27 in.), constructed out of deformed grade C1008 D3.5 rod (0.211 in. diameter). The rod shall have a minimum tensile strength of 55 MPa (8000 psi).

Erosion control blanket shall conform to Article 251.04.

A section of erosion control blanket shall be placed transverse to the flowline direction of the ditch prior to the construction of the polyethylene ditch check. The length of the section shall extend from the top of one side of the ditch to the top of the opposite side of the ditch, while the width of the section shall be one roll width of the blanket. The upstream edge of the erosion control blanket shall be secured in a 100 mm (4 in.) trench. The blanket shall be secured in the trench with 200 mm (8 in.) staples placed at 300 mm (1 ft) intervals along the edge before the trench is backfilled. Once the upstream edge of the blanket is secured, the downstream edge shall be secured with 200 mm (8 in.) staples placed at 300 mm (1 ft) intervals along the edge. The polyethylene ditch check shall be installed in the middle of the erosion control blanket, with the lip of each panel facing outward.

The ditch check shall consist of two panels placed back to back forming a single row. Placement of the first two panels shall be at the toe of the backslope or sideslope, with the panels extending across the bottom of the ditch. Subsequent panels shall extend both across the bottom of the ditch and up the opposite sideslope, as well as up the original backslope or sideslope at the distance determined by the Engineer.

The M pins shall be driven through the panel lips to secure the panels to the ground. M pins shall be installed in the center of the panels with adjacent panels overlapping the ends a minimum of 50 mm (2 in.). The pins shall be placed through both sets of panels at each overlap. They shall be installed at an interval of three M pins per one meter (39 in.) length of ditch check. The panels shall be wedged into the M pins at the top to ensure firm contact between the entire bottom of the panels and the soil.”

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.

TRAFFIC STRUCTURES (BDE)

Effective: November 1, 2002

Add the following sentence to the end of the first paragraph of Article 1069.01(a)(1) of the Standard Specifications:

“Light poles shall be designed for 145 km/hr (90 mph) wind velocity and a minimum design life of 50 years.”

Add the following sentence to the end of the third paragraph of Article 1069.04(a) of the Standard Specifications:

“Light towers shall be designed for 145 km/hr (90 mph) wind velocity and a minimum design life of 50 years.”

Revise the last sentence of the first paragraph of Article 1077.03(a)(1) of the Standard Specifications to read:

“The design shall be according to AASHTO “Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals” 1994 Edition for 130 km/hr (80 mph) wind velocity. However the arm-to-pole connection shall be according to the “ring plate” detail as shown in Figure 11-1(f) of the 2002 Interim, to the AASHTO “Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals” 2001 4th Edition.”

TRAINING SPECIAL PROVISIONS

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

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

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 2. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor’s needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited

for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

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

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

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

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more

of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

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

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period. Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

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

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT The unit of measurement is in hours.

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

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."

UNDERDRAIN OPERATIONS (BDE)

Effective: November 1, 2002

Underdrain operations shall be completed prior to weekend periods. Should delays of any type or for any reason prevent the completion of the work, the underdrain trenches shall be temporarily backfilled. Material able to support the average daily traffic and meeting the approval of the Engineer shall be used for the temporary backfill. The cost of furnishing, placing, maintaining, removing and disposing of the temporary work, including traffic control, shall be the responsibility of the Contractor.

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:

Adjusted Net Weight = A x 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.

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.

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: January 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.



Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route FAP Route 774
Section 107WRS-1, 107BY, 107BY-1 & 107B-2
County Effingham

Marked IL Route 32/33
Project No. STP-774-()

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Handwritten signature of Stanley E. Mack

Signature

Handwritten date 3-25-07

Date

DISTRICT ENGINEER

Title

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):

WIDEN AND RESURFACE IL ROUTE 32/33 FROM TWO LANES TO FIVE LANES. THIS WILL INCLUDE WIDENING TWO BRIDGES AND REPLACING ONE BRIDGE, RETAINING WALL REPLACEMENT, DITCH RECONSTRUCTION, CUVLERT EXTENSIONS, STORM SEWER CONSTRUCTION, AND REBUILDING PUBLIC ACCESS ROAD INTERSECTIONS AND ENTRANCES ALONG THE ROUTE.

- b. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site, such as grubbing, excavation and grading (use additional pages, as necessary):

WIDENING THE ROADWAY EMBANKMENT, DITCH RECONSTRUCTION, RETAINING WALL REMOVAL AND RECONSTRUCTION, PUBLIC ACCESS ROAD RELOCATION, BRIDGE WIDENING, BRIDGE REPLACEMENT, AND STORM SEWER CONSTRUCTION.

- c. The total area of the construction site is estimated to be 40 acres.

The total area of the site that it is estimated will be disturbed by excavation, grading or other activities is _____ acres.

- 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 either in the Soils Report for the project, which is hereby incorporated by reference, or in an attachment to this plan. N/A
- 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 discharged to a surface water. N/A
- 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. N/A

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 (use additional pages, as necessary):

- TOP SOIL AND EARTH STOCK PILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN DAYS.
- EXCAVATED AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADING IS COMPLETED. IF SEEDING DATES ARE NOT APPROPRIATE FOR PERMANENT SEEDING, THEN TEMPORARY EROSION CONTROL SEEDING WILL BE DONE AT THE DIRECTION OF THE ENGINEER.
- MULCH WILL BE PLACED AS REQUIRED FOR ALL SEEDING ACTIVITIES.
- EROSION CONTROL BLANKET WILL BE INSTALLED, AS SHOWN ON THE DRAWINGS, WITHIN 24 HOURS AFTER PERMANENT SEEDING OPERATIONS HAVE BEEN COMPLETED.
- LANDSCAPING WILL BE PROVIDED AT TIERED RETAINING WALLS.

(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 (use additional pages, as necessary):

TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. THESE INCLUDE:

- PERIMETER EROSION BARRIER SHALL BE INSTALLED PRIOR TO ANY EXCAVATION OR EMBANKMENT WORK IN THE AREA. PROPOSED LOCATIONS ARE SHOWN ON THE PLANS. AS CONSTRUCTION PROGRESSES, ADDITIONAL BARRIERS MAY BE REQUIRED BY THE ENGINEER.
- TEMPORARY DITCH CHECKS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE DRAWINGS AND APPROVED BY THE ENGINEER. TEMPORARY DITCH CHECKS WILL BE INSTALLED AS SOON AS PRACTICAL FOLLOWING DITCH EXCAVATION.
- RIPRAP AND GABIONS WITH FILTER FABRIC SHALL BE INSTALLED IN DITCHES AT THE LOCATIONS SHOWN ON THE DRAWINGS. RIPRAP AND GABIONS WILL BE INSTALLED AS SOON AS PRACTICAL FOLLOWING DITCH EXCAVATION.
- INLET AND PIPE PROTECTION SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE DRAWINGS AND APPROVED BY THE ENGINEER. INLET AND PIPE PROTECTION WILL BE INSTALLED AS SOON AS PRACTICAL FOLLOWING CULVERT, INLET, OR MANHOLE CONSTRUCTION.
- STILLING BASINS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE DRAWINGS. STILLING BASINS WILL BE EXCAVATED AND RIPRAP PLACED AS SOON AS PRACTICAL FOLLOWING ADJACENT CULVERT AND DITCH WORK.

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).

Description of Storm Water Management Controls (use additional pages, as necessary):

- STILLING BASINS WILL BE USED TO CONTROL SEDIMENT. PROPOSED LOCATIONS ARE SHOWN ON THE DRAWINGS.

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 ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

- NO ADDITIONAL REQUIREMENTS

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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 (use additional pages, as necessary):

- ALL TEMPORARY AND PERMANENTLY SEEDED AREAS SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. DAMAGE TO SEEDED AREAS SHALL BE IMMEDIATELY REPAIRED AND RESEEDED ACCORDING TO THE SPECIFICATIONS.
- STILLING BASINS, TEMPORARY DITCH CHECKS AND PERIMETER EROSION BARRIER SHALL BE MAINTAINED TO ACCOMPLISH THE SPECIFIED PURPOSE.
- AT THE DIRECTION OF THE ENGINEER OR AS A RESULT OF INSPECTION, SEDIMENT REMOVAL MAY BE REQUIRED. THE RESULTING WASTE MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER.
- ALL OTHER EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED IN GOOD CONDITION.

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.

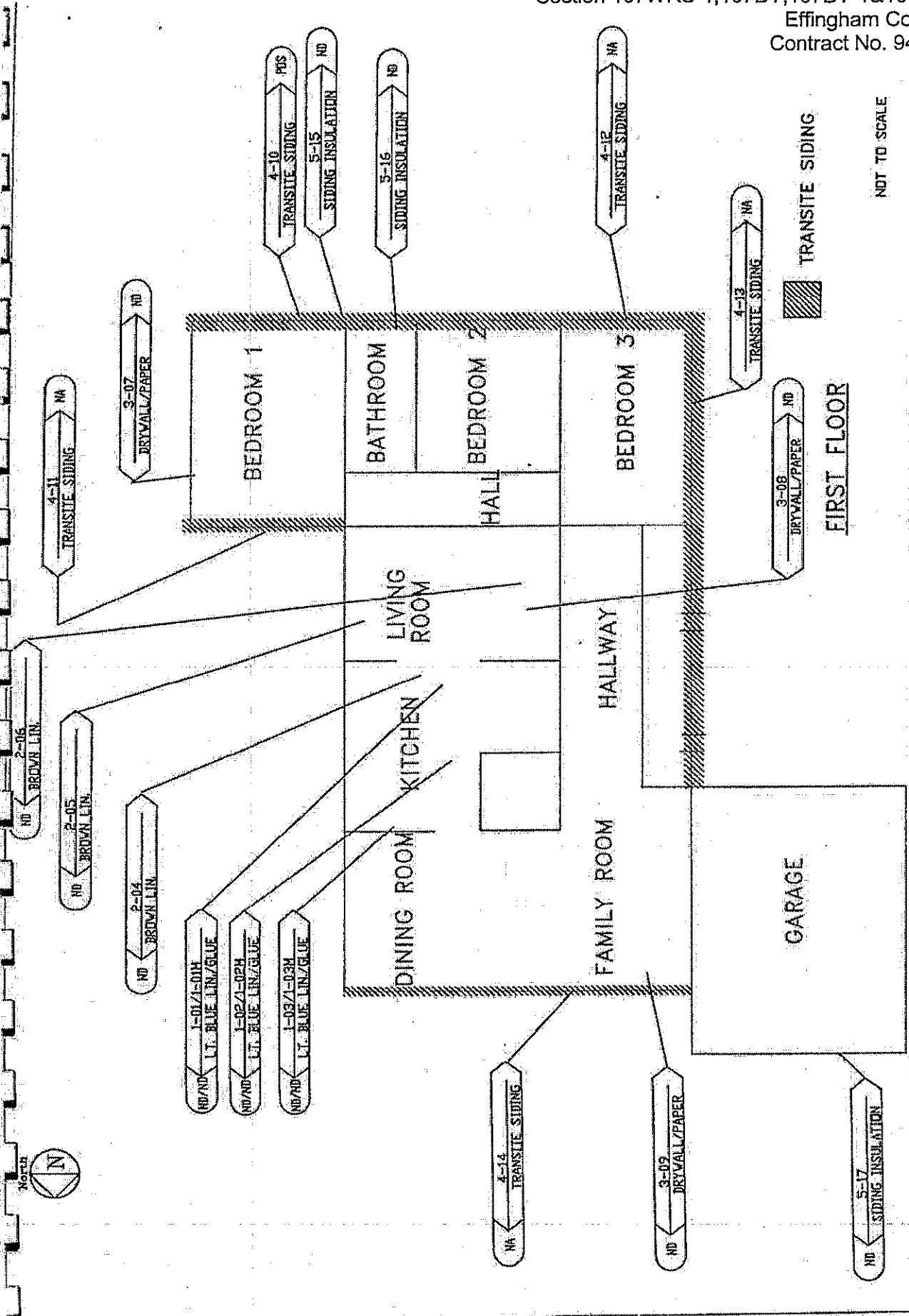
The report of noncompliance shall be mailed to the following address:

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

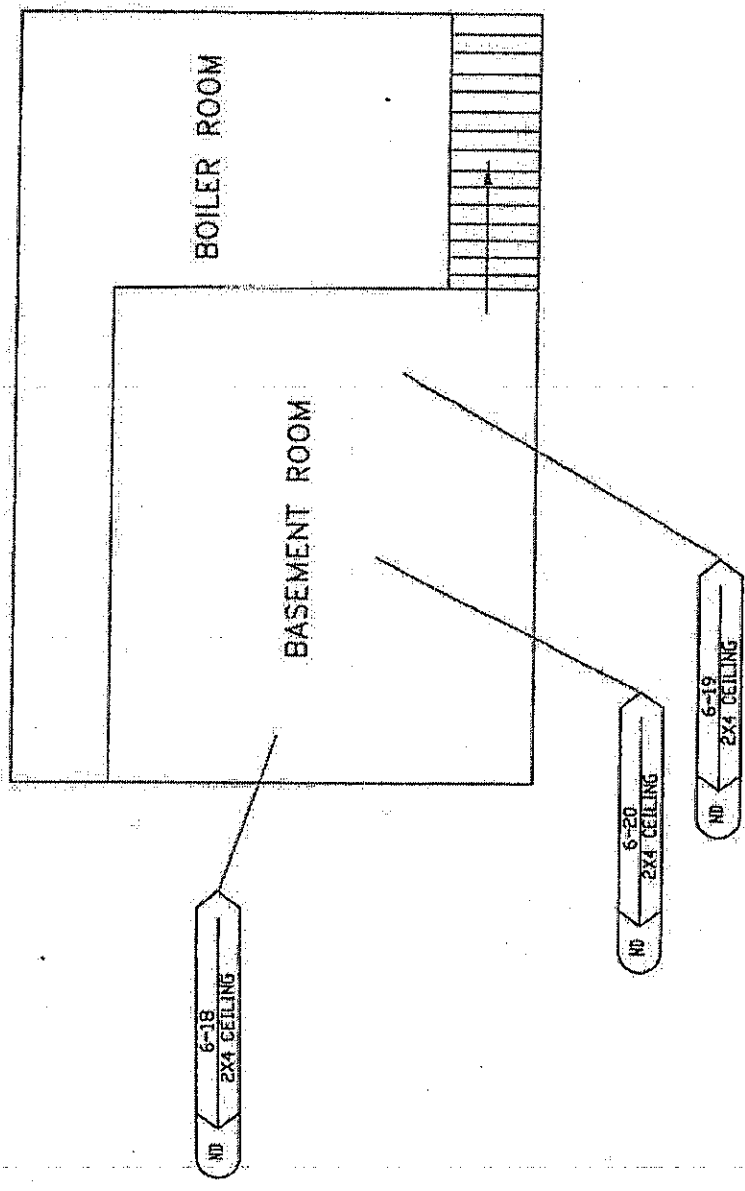
Except for flows from fire fighting activities, sources of non-storm water that is combined with storm water discharges associated with the industrial activity addressed in this plan must be described below. Appropriate pollution prevention measures, as described below, will be implemented for the non-storm water component(s) of the discharge. (Use additional pages as necessary to describe non-storm water discharges and applicable pollution control measures).

- THERE WILL BE NO NON-STORM WATER DISCHARGES.




NOT TO SCALE

<p>ENVIRONMENTAL DESIGN INTERNATIONAL, INC. 200 S. WASHINGTON AVENUE, SUITE 700 CHICAGO, IL 60604 PHONE (312) 561-4466</p>	<p>ASBESTOS ANALYSIS</p> <p>REF: 10/1/03</p> <p>DATE: 04/07/03</p>	<p>SCALE: NTS</p>
	<p>PROJECT NO. 1173.011.22</p>	<p>ED I PROJECT NO. 1173.011.22</p>
<p>1 WOODBIRD DR. EFFINGHAM, ILLINOIS PARCEL # 7007149</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION 2300 SOUTH DIRKSEN PARKWAY SPRINGFIELD, ILLINOIS 62704</p>	<p>PROJECT NO. 1173.011.22</p>
<p>ASBESTOS ANALYSIS</p> <p>REF: 10/1/03</p> <p>DATE: 04/07/03</p>	<p>SCALE: NTS</p>	<p>DATE 04/07/03</p>
<p>ASBESTOS ANALYSIS</p> <p>REF: 10/1/03</p> <p>DATE: 04/07/03</p>	<p>SCALE: NTS</p>	<p>DATE 04/07/03</p>



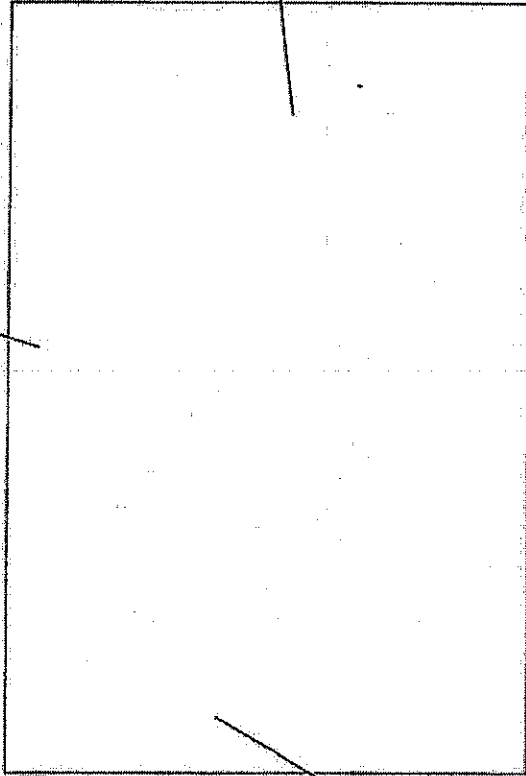
BASEMENT

NOT TO SCALE

 ENVIRONMENTAL DESIGN TECHNOLOGIES, INC. 500 S. WILSON AVENUE, SUITE 200 GAITHERSBURG, MD 20878-1000	ASBESTOS SAMPLE GROUP	SAMPLE NUMBER N/A MTR SAMPLE DESCRIPTION RESULT	SAMPLE ANALYSIS N = NOT ANALYZED P = POSITIVE TR = TRACE FILE	SAMPLE NUMBER PB NEG POS RESULT	SAMPLE LEGEND LEAD	1 WOODBIRD DRIVE EFFINGHAM, ILLINOIS PARCEL # 7007149 ILLINOIS DEPARTMENT OF TRANSPORTATION 2500 SOUTH DIRKSEN PARKWAY SPRINGFIELD, ILLINOIS 62704	DRAWN E.W.	CHECKED A.M.	DATE 04/07/03	SCALE: PROJECT NO. 1173.011.22 NTS
	EDI PROJECT NO. 1173.011.22 SCALE: NTS									



7-22
 ROOF SHINGLES
 ND



7-23
 ROOF SHINGLES
 ND

ND
 7-21
 ROOF SHINGLES

ROOF

NOT TO SCALE



EDWARDS & KELCEY PROFESSIONAL INC.
 200 S. MORGAN AVENUE, SUITE 200
 CHICAGO, IL 60606 PHONE: (773) 384-6464

ASBESTOS
 ANALYSIS

8P-303V
 (TOP THERMATIC) N/IR
 MATERIAL DESCRIPTION
 SAMPLE RESULTS

SAMPLE LEGEND

NA=NOT ANALYZED
 N or ND = NOT DETECTED
 P or ND = POSITIVE
 TR = TRACE

LEAD

SAMPLE NUMBER
 (P-ND)
 SAMPLE RESULT
 NEG = NEGATIVE
 POS = POSITIVE

1 WOODBIRD DRIVE
 EFFINGHAM, ILLINOIS
 PARCEL #7007149

DRAWN
 E.W.

CHECKED
 A.M.

DATE
 04/07/03

SCALE:
 PROJECT NO. 1173-011.22
 NTS

ILLINOIS DEPARTMENT OF TRANSPORTATION
 2300 SOUTH DIRKSEN PARKWAY
 SPRINGFIELD, ILLINOIS 62704

SERVER\INDUSTRIAL\HY-ASBESTOS_2005\1007_1173_011_22\ROOF

Bella Donna Labs, Inc.

200 S. Michigan Ave.
Chicago, IL 60604

FAP Route 774 (Ill. 32/33)
Section 107WRS-1, 107BY, 107BY-1 & 107BY-2
NVLAP Accredited # 101868-0
Effingham County
Contract No. 94827

LABORATORY ANALYSIS REPORT

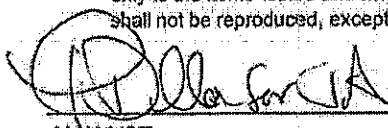
BATCH# 500333

Bulk Asbestos Identification

Client	Site	1 Woodbird Dr. - Effingham
Client Reference 1173.011.22	Sender	C. Ugbebor
Date Received 03/27/2003 by Joseph Anzlovar	Date Analyzed	03/28/2003 by Joseph Anzlovar
Date Collected 03/27/2003 by Cosmas Ugbebor	Date Reported	03/31/2003 by Paula Dillon
Method EPA-600/R-93/116, using Polarized Light Microscopy		

Field #	Lab #	Asb Detected	% Asbestos	% Fibrous Material	% NonFibrous Material	Ho-mo-gen.	Color	Description, Location
1-01	1	No			Binder 100		White	Kitchen Lt.Blue Lino
1-02	2	No			Binder 100		White	Kitchen Lt.Blue Lino
1-03	3	No			Binder 100		White	Kitchen Lt.Blue Lino
1-01M	4	No			Binder 100	Yes	Tan	Kitchen Lt.Blue Lino Glue
1-02M	5	No			Binder 100	Yes	Tan	Kitchen Lt.Blue Lino Glue
1-03M	6	No			Binder 100	Yes	Tan	Kitchen Lt.Blue Lino Glue
2-04	7	No		Cellulose 45 - 50	Binder 50		Brown Gray	Kitchen Brown Lino & paper
2-05	8	No		Cellulose 45 - 50	Binder 50		Brown Gray	Kitchen Brown Lino & paper
2-06	9	No		Cellulose 45 - 50	Binder 50		Brown Gray	Kitchen Brown Lino & paper
3-07	10	No		Cellulose 25 - 30	Binder 70		White Brown	Bedroom Drywall/Paper
3-08	11	No		Cellulose 25 - 30	Binder 70		White Brown	Living rm Drywall/Paper
3-09	12	No		Cellulose 25 - 30	Binder 70		White Brown	Family Rm Drywall/Paper
4-10	13	Yes	Chrysotile 40 - 45		Binder 55	Yes	Gray	S. Wall Transite Siding
4-13	16	Yes	Chrysotile 40 - 45		Binder 55	Yes	Gray	S. Wall Transite Siding
5-15	18	No			Binder 100	Yes	Brown	S. Wall Siding Insulation
5-16	19	No			Binder 100	Yes	Brown	S. Wall Siding Insulation
5-17	20	No			Binder 100	Yes	Brown	S. Wall Siding Insulation
6-18	22	No		Cellulose 80 - 85	Binder 15		White	Basement North 2'x4' Whit Ceiling

Note: This report summarizes the analytical results for the bulk material samples submitted for asbestos identification. Analysis of sample was performed in accordance with the Method #EPA-600/R-93/116 utilizing polarized light microscopy with dispersion staining. This report relates only to the items tested and must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced, except in full, and only with written approval of the laboratory.


ANALYST

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LABORATORY ANALYSIS REPORT

Bulk Asbestos Identification

Effingham County
 Contract No. 94827

Client Site 1 Woodbird Dr. - Effingham
 Client Reference 1173.011.22 Sender C. Ugbebor

Date Received 03/27/2003 by Joseph Anzlovar Date Analyzed 03/28/2003 by Joseph Anzlovar
 Date Collected 03/27/2003 by Cosmas Ugbebor Date Reported 03/31/2003 by Paula Dillon
 Method EPA-600/R-93/116, using Polarized Light Microscopy

Field #	Lab #	Asb Detected	% Asbestos	% Fibrous Material	% NonFibrous Material	Ho-mo-gen.	Color	Description, Location
							Brown	Tile
6-19	23	No		Cellulose 80 - 85	Binder 15		White	Basement South 2'x4' Wht Ceiling
							Brown	Tile
6-20	24	No		Cellulose 80 - 85	Binder 15		White	Basement Center 2'x4' Wht Ceiling
							Brown	Tile
7-21	25	No		Fibrous Glass 10 - 15 Cellulose 10 - 15	Binder 70		White Black	Roof Shingle
7-22	26	No		Fibrous Glass 10 - 15 Cellulose 10 - 15	Binder 70		White Black	Roof Shingle
7-23	27	No		Fibrous Glass 10 - 15 Cellulose 10 - 15	Binder 70		White Black	Roof Shingle

Note This report summarizes the analytical results for the bulk material samples submitted for asbestos identification. Analysis of sample was performed in accordance with the Method #EPA-600/R-93/116 utilizing polarized light microscopy with dispersion staining. This report relates only to the items tested and must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced, except in full, and only with written approval of the laboratory.

(Signature)
 ANALYST

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SECTION 1
1.2 Results Summary

ACM SURVEY RESULTS – PARCEL NO.: 7007149
1 Woodbird Drive, Effingham, Illinois

The following homogeneous building material types were sampled as part of this survey and their results are summarized in the table below:

MTL #	MATERIAL DESCRIPTION	LOCATION	F/NF ¹	COND. ²	% ACM ³	# SAMP.	QUANTITY ENGLISH/METRIC
1	Light Blue Linoleum & Mastic	Kitchen S.	NF	Good	ND/ND	6	156sf
		Kitchen Center.	NF	Good	ND/ND		14.49 m2
		Kitchen S.	NF	Good	ND/ND		
2	Brown Linoleum	Kitchen S.	NF	Good	ND	3	540 sf
		Living RM. E.	NF	Good	ND		50.17 m2
		Living RM. W.	NF	Good	ND		
3	Drywall	Bed RM. 1 E. Wall	F	Good	ND	3	3960 sf
		Living RM. W. Wall	F	Good	ND		367.90 m ²
		Family RM. N. wall	F	Good	ND		
4	Transite Siding	E. Side S. Wall	NF	Good	40-45%	5	1000sf
		E. Side N. Wall	NF	Good	NA		92.90m2
		SW. Side Wall	NF	Good	NA		
		W. Side Wall	NF	Good	NA		
		N. Side Wall	NF	Good	NA		
5	Siding Insulation	E. Side S. Wall.	F	Good	ND	3	888 sf
		S. Side. Wall.	F	Good	ND		82.50m ²
		N. Side W. Wall	F	Good	ND		
6	2x4 White Ceiling Tile	Basement RM. N.	F	Good	ND	3	357 sf
		Basement RM. S.	F	Good	ND		31.17m ²
		Basement RM. Center	F	Good	ND		
7	Roof Shingles	Roof N.	NF	Good	ND	3	3478 sf
		Roof E.	NF	Good	ND		323.12m ²
		Roof S.	NF	Good	ND		
TOTAL QUANTITY OF ACM							1000 SF 92.90 m2
ESTIMATED ABATEMENT COST							\$5800.00

¹ F = Friable; NF = Nonfriable Friability is further defined in section 4.
² Cond. = Condition Of Materials Either good, fair or poor.
³ ND = None Detected
 NA = Not Analyzed

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:

$$\text{Percent Difference} = \{(CBP_L - CBP_M) \div CBP_L\} \times 100$$

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)

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

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)

**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 advised the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

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

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

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

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not

listed on the wage determination unless the Administrator of the

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

"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.

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.

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.

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.