

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

PREQUALIFICATION

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

REQUESTS FOR AUTHORIZATION TO BID

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

WHO CAN BID ?

Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction.

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

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

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

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

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

IDOT IS NOT RESPONSIBLE FOR ANY E-MAIL 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 Tim Garman (217)524-1642 or Timothy.Garman@illinois.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

ADDENDUMS AND REVISIONS TO THE PROPOSAL FORMS

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

RETURN WITH BID

86

Proposal Submitted By
Name
Address
City

Letting September 18, 2009

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. 63209
LAKE County
Section 02-00110-12-WR
Route FAU 1223 (Washington Street)
Project HPP-M-8003(506)
District 1 Construction Funds

PLEASE MARK THE APPROPRIATE BOX BELOW:

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

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)

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 _____

Taxpayer Identification Number (Mandatory) _____

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

**Contract No. 63209
LAKE County
Section 02-00110-12-WR
Project HPP-M-8003(506)
Route FAU 1223 (Washington Street)
District 1 Construction Funds**

This project consists of the widening of Washington Street from two through lanes to 5 lanes of full-depth HMA pavement on an aggregate subgrade with curb and gutter, storm sewers, traffic signals and interconnect improvements starting 1,222 feet east of Cemetery Road to east of Six Flags Drive and project also includes the reconstruction of 350 feet of Tri-State Parkway.

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

RETURN WITH BID

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

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

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

Schedule of Combination Bids

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

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

8. **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.

STATE JOB # - C-91-175-05
 PPS NBR - 1-20143-0010

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 1
 RUN DATE - 08/10/09
 RUN TIME - 183258

COUNTY NAME CODE DIST SECTION NUMBER PROJECT NUMBER ROUTE
 LAKE 097 01 02-00110-12-WR HPP-M-8003/506/000 FAU 1223

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	CENTS	TOTAL PRICE DOLLARS	CTS
A2007120	T-QUERCUS RUBRA 2-1/2	EACH	90.000	X	=		
D2003184	E-PSUEDO MENZI 7'	EACH	23.000	X	=		
XX001758	WOOD FENCE REMOVAL	FOOT	189.000	X	=		
XX002856	RE-OPTIMIZE TR SIG SY	L SUM	1.000	X	=		
XX003503	FLARED END SEC REM	EACH	1.000	X	=		
XX003661	ELCBL C COAXIAL	FOOT	311.000	X	=		
XX003662	ELCBL C VIDEO #20 3C	FOOT	311.000	X	=		
XX005723	VIDEO DET SY COMP INT	EACH	2.000	X	=		
XX005928	TRAF SIGL P 10FT SPL	EACH	1.000	X	=		
XX005931	TRAF SIGL P 16FT SPL	EACH	4.000	X	=		
XX005937	LED INT IL S-NAME SGN	EACH	6.000	X	=		
XX005940	REMOTE CONTR VIDEO SY	EACH	2.000	X	=		
XX006652	STAMP CLRD PCC MED 4	SQ FT	2,715.000	X	=		
XX006654	FOCC62.5/125 MM12SM24	FOOT	4,362.000	X	=		
XX006655	LYR II DATALINK SWITCH	EACH	2.000	X	=		

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 2
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
XX006658	FLOCCULATION LOGS	EACH	20.000				
XX006659	FLOCCULATION POWDER	POUND	18.000				
XX008128	S C MA&P DMA 50&24 SP	EACH	1.000				
XX008129	BACKER MATERIAL	FOOT	8,689.000				
XX008130	DR STR CLEAN & GROUT	EACH	18.000				
XX008131	ELCBL C 18 3C VIDEO	FOOT	1,417.000				
XX008132	REL REM-CON VID SYS	EACH	1.000				
XX008133	MAINT TEMP EROS CON S	UNIT	28,320.000	#1	00	#28,320	00
XX206400	MAILBOX POST	EACH	13.000				
XZ161800	TRAILER MT AR BD TY B	EACH	2.000				
X0301850	F&I TB TERM T1 SP FLR	EACH	2.000				
X0321524	CHIMNEY SEAL	EACH	4.000				
X0321556	SANITARY MANHOLE ADJ	EACH	1.000				
X0322923	SEGMENT CONC BLK WALL	SQ FT	229.000				
X0322925	ELCBL C TRACER 14 1C	FOOT	4,362.000				

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECRM003 PAGE 3
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
X0323013	TUBULAR STEEL GATE	EACH	2.000				
X0323988	TEMP SOIL RETEN SYSTEM	SQ FT	828.000				
X0325151	REMOVE EX LIGHT POLE	EACH	1.000				
X0712400	TEMP PAVEMENT	SQ YD	6,117.000				
X2010510	CLEARING & GRUBBING	L SUM	1.000				
X2800105	TEMP DITCH CK UF/GEO	EACH	24.000				
X2800500	INLET PROTECTION SPL	EACH	101.000				
X5121800	PERM STEEL SHT PILING	SQ FT	1,962.000				
X5401100	PCBC 10X4.5	FOOT	102.000				
X6013600	PIPE UNDERDRAIN 4 MOD	FOOT	8,624.000				
X6700405	ENGR FLD OFF A MOD	CAL MO	18.000				
X8050015	SERV INSTALL POLE MT	EACH	2.000				
X8620020	UNINTER POWER SUPPLY	EACH	2.000				
X8730027	ELCBL C GROUND 6 1C	FOOT	1,508.000				
X8730250	ELCBL C 20 3C TW SH	FOOT	631.000				

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECRM003 PAGE 4
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
X8900010	TEMP TR SIG INTERCON	EACH	1.000				
Z0001050	AGG SUBGRADE 12	SQ YD	36,885.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0030070	IMP ATTEN SU NAR TL3	EACH	2.000				
Z0030250	IMP ATTN TEMP NRD TL3	EACH	2.000				
Z0030350	IMP ATTN REL NRD TL3	EACH	2.000				
Z0062400	SAW BIT CONC PAVT	FOOT	16,208.000				
Z0070200	SURVEY MONUMENTS	EACH	1.000				
Z0076600	TRAINEES	HOUR	2,500.000	0.80		2,000.00	
20100110	TREE REMOV 6-15	UNIT	815.000				
20100210	TREE REMOV OVER 15	UNIT	634.000				
20101100	TREE TRUNK PROTECTION	EACH	24.000				
20101200	TREE ROOT PRUNING	EACH	20.000				
20101300	TREE PRUN 1-10	EACH	10.000				
20101350	TREE PRUN OVER 10	EACH	10.000				

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 5
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
20200100	EARTH EXCAVATION	CU YD	22,020.000	=			
20400800	FURNISHED EXCAV	CU YD	4,016.000	=			
20700400	POROUS GRAN EMB SPEC	CU YD	717.000	=			
20800150	TRENCH BACKFILL	CU YD	1,155.000	=			
21001000	GEOTECH FAB F/GR STAB	SQ YD	39,168.000	=			
21101615	TOPSOIL F & P 4	SQ YD	10,962.000	=			
21301052	EXPLOR TRENCH 52	FOOT	100.000	=			
25000210	SEEDING CL 2A	ACRE	4.000	=			
25000314	SEEDING CL 4B	ACRE	0.250	=			
25000400	NITROGEN FERT NUTR	POUND	383.000	=			
25000600	POTASSIUM FERT NUTR	POUND	383.000	=			
25100630	EROSION CONTR BLANKET	SQ YD	25,525.000	=			
25100800	EROSION CONTROL MAT	SQ YD	348.000	=			
25200110	SODDING SALT TOLERANT	SQ YD	1,157.000	=			
25200200	SUPPLE WATERING	UNIT	945.000	=			

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 6
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
28000250	TEMP EROS CONTR SEED	POUND	434.000	=			
28000400	PERIMETER EROS BAR	FOOT	8,766.000	=			
28100705	STONE DUMP RIP CL A3	SQ YD	408.000	=			
28200200	FILTER FABRIC	SQ YD	408.000	=			
35100500	AGG BASE CSE A 6	SQ YD	9,503.000	=			
40201000	AGGREGATE-TEMP ACCESS	TON	674.000	=			
40600100	BIT MATLS PR CT	GALLON	5,237.000	=			
40600300	AGG PR CT	TON	53.000	=			
40600895	CONSTRUC TEST STRIP	EACH	6.000	=			
40600982	HMA SURF REM BUTT JT	SQ YD	359.000	=			
40600990	TEMPORARY RAMP	SQ YD	315.000	=			
40603080	HMA BC IL-19.0 N50	TON	1,034.000	=			
40603085	HMA BC IL-19.0 N70	TON	206.000	=			
40603240	P HMA BC IL19.0 N90	TON	18,356.000	=			
40603335	HMA SC "D" N50	TON	938.000	=			

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 7
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
40603340	HMA SC "D" N70	TON	1,068.000	=			
40603595	P HMA SC "F" N90	TON	2,622.000	=			
42400100	PC CONC SIDEWALK 4	SQ FT	896.000	=			
42400800	DETECTABLE WARNINGS	SQ FT	128.000	=			
44000100	PAVEMENT REM	SQ YD	20,697.000	=			
44000155	HMA SURF REM 1 1/2	SQ YD	12,361.000	=			
44000200	DRIVE PAVEMENT REM	SQ YD	1,511.000	=			
44000500	COMB CURB GUTTER REM	FOOT	4,513.000	=			
44003100	MEDIAN REMOVAL	SQ FT	7,068.000	=			
44003800	MEDIAN SURF REMOVAL	SQ FT	8,114.000	=			
44004000	PAVED DITCH REMOVAL	FOOT	45.000	=			
44004250	PAVED SHLD REMOVAL	SQ YD	1,523.000	=			
44300200	STRIP REF CR CON TR	FOOT	374.000	=			
45100100	CRACK ROUTING (PAVT)	FOOT	8,689.000	=			
45100200	CRACK FILLING	POUND	2,450.000	=			

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 8
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	CENTS	TOTAL PRICE DOLLARS	CTS
50104400	CONC HDWL REM	EACH	3.000				
50105220	PIPE CULVERT REMOV	FOOT	1,776.000				
50200100	STRUCTURE EXCAVATION	CU YD	577.000				
50300225	CONC STRUCT	CU YD	36.700				
50300300	PROTECTIVE COAT	SQ YD	17.000				
50800105	REINFORCEMENT BARS	POUND	5,050.000				
50800205	REINF BARS, EPOXY CTD	POUND	2,118.000				
50901720	BICYCLE RAILING	FOOT	1,824.000				
54003000	CONC BOX CUL	CU YD	11.300				
542A1075	P CUL CL A 2 30	FOOT	110.000				
54200643	P CUL 1 CS/A CP 18	FOOT	52.000				
54209907	P CUL 2 RC-E EQRS 42	FOOT	234.000				
54213657	PRC FLAR END SEC 12	EACH	1.000				
54213675	PRC FLAR END SEC 30	EACH	1.000				
54213873	STEEL END SEC 18	EACH	2.000				

FAU 1223
 02-00110-12-WR
 LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 9
 RUN DATE - 08/10/09
 RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
54247150	GRATING-C FL END S 30	EACH	1.000				
550A0050	STORM SEW CL A 1 12	FOOT	481.000				
550A0090	STORM SEW CL A 1 18	FOOT	120.000				
550A0120	STORM SEW CL A 1 24	FOOT	15.000				
550A0340	STORM SEW CL A 2 12	FOOT	2,348.000				
550A0380	STORM SEW CL A 2 18	FOOT	519.000				
550A0410	STORM SEW CL A 2 24	FOOT	656.000				
550A0430	STORM SEW CL A 2 30	FOOT	484.000				
55039700	SS CLEANED	FOOT	100.000				
56400300	FIRE HYDNTS TO BE ADJ	EACH	5.000				
56400800	FIRE HYDNT & VAL MVD	EACH	3.000				
59300100	CONTR LOW-STRENG MATL	CU YD	1.800				
60107800	PIPE UNDERDRAINS 8	FOOT	143.000				
60200105	CB TA 4 DIA T1F OL	EACH	10.000				
60201340	CB TA 4 DIA T24F&G	EACH	25.000				

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 10
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
60203805	CB TA 5 DIA T1F OL	EACH	6.000	X	=		
60203905	CB TA 5 DIA T1F CL	EACH	2.000	X	=		
60205040	CB TA 5 DIA T24F&G	EACH	1.000	X	=		
60206705	CATCH BASINS TB	EACH	1.000	X	=		
60207605	CB TC T8G	EACH	3.000	X	=		
60218400	MAN TA 4 DIA T1F CL	EACH	2.000	X	=		
60221100	MAN TA 5 DIA T1F CL	EACH	2.000	X	=		
60235300	INLETS TA T1F CL	EACH	1.000	X	=		
60237470	INLETS TA T24F&G	EACH	22.000	X	=		
60255500	MAN ADJUST	EACH	1.000	X	=		
60260050	SAN MAN RECONST	EACH	3.000	X	=		
60260100	INLETS ADJUST	EACH	2.000	X	=		
60265700	VV ADJUST	EACH	1.000	X	=		
60266100	VV RECONST	EACH	6.000	X	=		
60300205	FR & GRATES ADJUST SP	EACH	9.000	X	=		

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 11
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
60500060	REMOV INLETS	EACH	22.000				
60603800	COMB CC&G TB6.12	FOOT	1,516.000				
60605000	COMB CC&G TB6.24	FOOT	9,241.000				
60608300	COMB CC&G TM2.12	FOOT	694.000				
60619200	CONC MED TSB6.06	SQ FT	2,110.000				
60624600	CORRUGATED MED	SQ FT	282.000				
61140200	STORM SEWER SPEC 12	FOOT	106.000				
63000001	SPBGR TY A 6FT POSTS	FOOT	590.000				
63200310	GUARDRAIL REMOV	FOOT	1,269.000				
64100120	SIGHT SCRN (WF) TP 8	FOOT	401.000				
66400105	CH LK FENCE 4	FOOT	957.000				
66410300	CH LK FENCE REMOV	FOOT	189.000				
66503400	BARB W FENCE REMOV	FOOT	1,181.000				
67100100	MOBILIZATION	L SUM	1.000				
70101700	TRAF CONT & PROT	L SUM	1.000				

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 12
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
70106800	CHANGEABLE MESSAGE SN	CAL MO	72.000	X	=		
70300210	TEMP PVT MK LTR & SYM	SQ FT	1,149.000	X	=		
70300220	TEMP PVT MK LINE 4	FOOT	62,790.000	X	=		
70300240	TEMP PVT MK LINE 6	FOOT	2,391.000	X	=		
70300260	TEMP PVT MK LINE 12	FOOT	8,265.000	X	=		
70300280	TEMP PVT MK LINE 24	FOOT	462.000	X	=		
70300520	PAVT MARK TAPE T3 4	FOOT	17,775.000	X	=		
70300560	PAVT MARK TAPE T3 12	FOOT	2,426.000	X	=		
70301000	WORK ZONE PAVT MK REM	SQ FT	12,175.000	X	=		
70400100	TEMP CONC BARRIER	FOOT	695.000	X	=		
70400200	REL TEMP CONC BARRIER	FOOT	479.000	X	=		
72400600	RELOC SIN PAN ASSY TB	EACH	11.000	X	=		
72400710	RELOC SIGN PANEL T1	SQ FT	32.000	X	=		
72400720	RELOC SIGN PANEL T2	SQ FT	20.000	X	=		
78000100	THPL PVT MK LTR & SYM	SQ FT	348.000	X	=		

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 13
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
78000200	THPL PVT MK LINE 4	FOOT	21,392.000	X	=		
78000300	THPL PVT MK LINE 5	FOOT	10,874.000	X	=		
78000400	THPL PVT MK LINE 6	FOOT	1,096.000	X	=		
78000600	THPL PVT MK LINE 12	FOOT	1,746.000	X	=		
78000650	THPL PVT MK LINE 24	FOOT	218.000	X	=		
78008210	POLYUREA PM T1 LN 4	FOOT	942.000	X	=		
78100100	RAISED REFL PAVT MKR	EACH	338.000	X	=		
78200100	MONODIR PRIS BAR REFL	EACH	70.000	X	=		
78200405	GUARDRAIL MARKERS	EACH	24.000	X	=		
78201000	TERMINAL MARKER - DA	EACH	2.000	X	=		
78300100	PAVT MARKING REMOVAL	SQ FT	1,942.000	X	=		
78300200	RAISED REF PVT MK REM	EACH	20.000	X	=		
81000500	CON T 1 1/2 GALVS	FOOT	10.000	X	=		
81000600	CON T 2 GALVS	FOOT	3,192.000	X	=		
81000700	CON T 2 1/2 GALVS	FOOT	61.000	X	=		

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 14
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
81000800	CON T 3 GALVS	FOOT	54.000	=			
81001000	CON T 4 GALVS	FOOT	23.000	=			
81001100	CON T 5 GALVS	FOOT	20.000	=			
81018500	CON P 2 GALVS	FOOT	710.000	=			
81018700	CON P 3 GALVS	FOOT	35.000	=			
81018900	CON P 4 GALVS	FOOT	539.000	=			
81019000	CON P 5 GALVS	FOOT	95.000	=			
81400100	HANDHOLE	EACH	14.000	=			
81400300	DBL HANDHOLE	EACH	2.000	=			
81700215	EC C EPR RHW 2-1C 10	FOOT	1,071.000	=			
82103250	LUM SV HOR MT PC 250W	EACH	5.000	=			
84200700	LIGHTING FDN REMOV	EACH	1.000	=			
85700205	FAC T4 CAB SPL	EACH	2.000	=			
86400100	TRANSCIEIVER - FIB OPT	EACH	2.000	=			
87301215	ELCBL C SIGNAL 14 2C	FOOT	2,455.000	=			

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 15
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	CENTS	TOTAL PRICE DOLLARS	CTS
87301225	ELCBL C SIGNAL 14 3C	FOOT	2,315.000	X	=		
87301245	ELCBL C SIGNAL 14 5C	FOOT	1,915.000	X	=		
87301255	ELCBL C SIGNAL 14 7C	FOOT	2,311.000	X	=		
87301805	ELCBL C SERV 6 2C	FOOT	62.000	X	=		
87704100	STL COMB MAA&P 34 SPL	EACH	2.000	X	=		
87704110	STL COMB MAA&P 36 SPL	EACH	2.000	X	=		
87704140	STL COMB MAA&P 42 SPL	EACH	1.000	X	=		
87800100	CONC FDN TY A	FOOT	20.000	X	=		
87800200	CONC FDN TY D	FOOT	8.000	X	=		
87800400	CONC FDN TY E 30D	FOOT	10.000	X	=		
87800415	CONC FDN TY E 36D	FOOT	61.000	X	=		
87900200	DRILL EX HANDHOLE	EACH	2.000	X	=		
88030020	SH LED 1F 3S MAM	EACH	7.000	X	=		
88030050	SH LED 1F 3S BM	EACH	3.000	X	=		
88030070	SH LED 1F 4S BM	EACH	2.000	X	=		

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 16
RUN DATE - 08/10/09
RUN TIME - 183258

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
88030080	SH LED 1F 4S MAM	EACH	3.000			=	
88030100	SH LED 1F 5S BM	EACH	3.000			=	
88030110	SH LED 1F 5S MAM	EACH	5.000			=	
88102717	PED SH LED 1F BM CDT	EACH	8.000			=	
88200210	TS BACKPLATE LOU ALUM	EACH	15.000			=	
88700200	LIGHT DETECTOR	EACH	4.000			=	
88700300	LIGHT DETECTOR AMP	EACH	2.000			=	
88800100	PED PUSH-BUTTON	EACH	8.000			=	
89000100	TEMP TR SIG INSTALL	EACH	2.000			=	
89502375	REMOV EX TS EQUIP	EACH	2.000			=	
89502380	REMOV EX HANDHOLE	EACH	5.000			=	
89502385	REMOV EX CONC FDN	EACH	8.000			=	
TOTAL				\$			

NOTE:
*** PLEASE TURN PAGE FOR IMPORTANT NOTES ***

FAU 1223
02-00110-12-WR
LAKE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 63209

ECMS002 DTGECM03 ECMR003 PAGE 17
RUN DATE - 08/10/09
RUN TIME - 183258

NOTE:

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

RETURN WITH BID

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

D. Negotiations

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

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

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

E. Inducements

1. The Illinois Procurement Code provides:

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

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

F. Revolving Door Prohibition

1. The Illinois Procurement Code provides:

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

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

G. Reporting Anticompetitive Practices

1. The Illinois Procurement Code provides:

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

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

H. Confidentiality

1. The Illinois Procurement Code provides:

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

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

RETURN WITH BID

I. Insider Information

1. The Illinois Procurement Act provides:

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

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

III. CERTIFICATIONS

A. The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous certification, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

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

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

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

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

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

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

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

- (d) Certification. Every bid submitted to and contract executed by the State shall contain a certification by the contractor that the contractor is not barred from being awarded a contract or subcontract under this Section. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

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

C. Educational Loan

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

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

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

D. Bid-Rigging/Bid Rotating

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

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

RETURN WITH BID

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

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

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

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

E. International Anti-Boycott

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

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

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

F. Drug Free Workplace

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

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

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

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

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

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

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

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

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

RETURN WITH BID

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, Section 50-60(c), provides:

The contractor certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 for a period of five years prior to the date of the bid or contract. The contractor acknowledges that the contracting agency shall declare the contract void if this certification is false.

I. Addenda

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

J. Section 42 of the Environmental Protection Act

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

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

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

NA - FEDERAL

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.

L. Executive Order Number 1 (2007) Regarding Lobbying on Government Procurements

The bidder hereby warrants and certifies that they have complied and will comply with the requirements set forth in this Order. The requirements of this warrant and certification are a material part of the contract, and the contractor shall require this warrant and certification provision to be included in all approved subcontracts.

RETURN WITH BID

M. Disclosure of Business Operations in Iran

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

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

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

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

Check the appropriate statement:

Company has no business operations in Iran to disclose.

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

N. Political Contributions and Registration with the State Board of Elections

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

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

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

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

TO BE RETURNED WITH BID

IV. DISCLOSURES

A. The disclosures hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous disclosure, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$10,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act.

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

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

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

C. Disclosure Form Instructions

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

The Department has retained the Form A disclosures submitted by all bidders responding to these requirements for the April 24, 1998 or any subsequent letting conducted by the Department. The bidder has the option of submitting the information again or the bidder may check the following certification statement indicating that the information previously submitted by the bidder is, as of the date of submission, current and accurate. Before checking this certification, the bidder should carefully review its prior submissions to ensure the Certification is correct. If the Bidder checks 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)



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 \$102,600.00? YES ___ NO ___
3. Does anyone in your organization receive more than \$106,447.20 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 \$106,447.20? 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. Note: *Checking the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, checked, and dated or the bidder may be considered nonresponsive and the bid will not be accepted.*

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

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

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

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:

RETURN WITH BID/OFFER

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A Financial Information & Potential Conflicts of Interest Disclosure

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

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

DISCLOSURE OF FINANCIAL INFORMATION

1. Disclosure of Financial Information. The individual named below has an interest in the BIDDER (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than \$106,447.20 (60% of the Governor's salary as of 3/1/09). (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 \$106,447.20, (60% of the Governor's salary as of 3/1/09) provide the name the State agency for which you are employed and your annual salary.

RETURN WITH BID/OFFER

- 3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds \$106,447.20, (60% of the Governor's salary as of 3/1/09) 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 \$106,447.20, (60% of the Governor's salary as of 3/1/09) 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 \$106,447.20, (60% of the Governor's salary as of 3/1/09) 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 \$106,447.20.00, (60% of the salary of the Governor as of 3/1/09) 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 \$106,447.20, (60% of the Governor's salary as of 3/1/09) 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 ___

RETURN WITH BID/OFFER

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

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

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

APPLICABLE STATEMENT

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

Completed by: _____ Date _____
Signature of Individual or Authorized Representative

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.

_____ Date _____
Signature of Authorized Representative

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 CHECKED

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. 63209
LAKE County
Section 02-00110-12-WR
Project HPP-M-8003(506)
Route FAU 1223 (Washington Street)
District 1 Construction Funds**

PART II. WORKFORCE PROJECTION - continued

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

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

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

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

PART III. AFFIRMATIVE ACTION PLAN

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

Company _____ Telephone Number _____

Address _____

NOTICE REGARDING SIGNATURE

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

Signature: _____ Title: _____ Date: _____

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

RETURN WITH BID

ADDITIONAL FEDERAL REQUIREMENTS

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

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

RETURN WITH BID

**Contract No. 63209
LAKE County
Section 02-00110-12-WR
Project HPP-M-8003(506)
Route FAU 1223 (Washington Street)
District 1 Construction Funds**

PROPOSAL SIGNATURE SHEET

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

(IF AN INDIVIDUAL) Firm Name _____
Signature of Owner _____
Business Address _____

(IF A CO-PARTNERSHIP) Firm Name _____
By _____
Business Address _____
Name and Address of All Members of the Firm: _____

(IF A CORPORATION) Corporate Name _____
By _____
Signature of Authorized Representative _____
Typed or printed name and title of Authorized Representative _____

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

(IF A JOINT VENTURE) Corporate Name _____
By _____
Signature of Authorized Representative _____
Typed or printed name and title of Authorized Representative _____

Attest _____
Signature _____
Business Address _____

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



Return with Bid

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

Item No. _____

Letting Date _____

KNOW ALL MEN BY THESE PRESENTS, That We _____

as PRINCIPAL, and _____

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

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

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

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

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

their respective officers this _____ day of _____ A.D., _____ .

PRINCIPAL

SURETY

(Company Name)

(Company Name)

By _____
(Signature & Title)

By: _____
(Signature of Attorney-in-Fact)

Notary Certification for Principal and Surety

STATE OF ILLINOIS,
County of _____

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

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

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

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

My commission expires _____

Notary Public

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

Electronic Bid Bond ID# _____

Company / Bidder Name _____



Signature and Title _____

PROPOSAL ENVELOPE



PROPOSALS

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

Item No.	Item No.	Item No.

Submitted By:

Name:
Address:
Phone No.

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

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

NOTICE

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

CONTRACTOR OFFICE COPY OF CONTRACT SPECIFICATIONS

NOTICE

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

**Contract No. 63209
LAKE County
Section 02-00110-12-WR
Project HPP-M-8003(506)
Route FAU 1223 (Washington Street)
District 1 Construction Funds**



Illinois Department of Transportation



NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m., September 18, 2009. 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. 63209
LAKE County
Section 02-00110-12-WR
Project HPP-M-8003(506)
Route FAU 1223 (Washington Street)
District 1 Construction Funds**

This project consists of the widening of Washington Street from two through lanes to 5 lanes of full-depth HMA pavement on an aggregate subgrade with curb and gutter, storm sewers, traffic signals and interconnect improvements starting 1,222 feet east of Cemetery Road to east of Six Flags Drive and project also includes the reconstruction of 350 feet of Tri-State Parkway.

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.

(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to readvertise the proposed improvement, and to waive technicalities.

By Order of the
Illinois Department of Transportation

Gary Hannig,
Acting Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2009

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-07) (Revised 1-1-09)

SUPPLEMENTAL SPECIFICATIONS

<u>Std. Spec. Sec.</u>	<u>Page No.</u>
201 Clearing, Tree Removal and Protection	1
205 Embankment	2
251 Mulch	3
253 Planting Woody Plants	4
280 Temporary Erosion Control	6
443 Reflective Crack Control Treatment	7
502 Excavation for Structures	10
503 Concrete Structures	11
504 Precast Concrete Structures	12
505 Steel Structures	13
540 Box Culverts	14
581 Waterproofing Membrane System	15
633 Removing and Reerecting Guardrail and Terminals	16
669 Removal and Disposal of Regulated Substances	17
672 Sealing Abandoned Water Wells	18
701 Work Zone Traffic Control and Protection	19
733 Overhead Sign Structures	20
783 Pavement Marking and Marker Removal	21
801 Electrical Requirements	22
805 Electrical Service Installation – Traffic Signals	23
836 Pole Foundation	24
838 Breakaway Devices	25
862 Uninterruptable Power Supply	26
873 Electric Cable	28
878 Traffic Signal Concrete Foundation	30
1004 Coarse Aggregates	31
1008 Structural Steel Coatings	32
1010 Finely Divided Materials	33
1020 Portland Cement Concrete	34
1022 Concrete Curing Materials	43
1024 Nonshrink Grout	44
1042 Precast Concrete Products	45
1062 Reflective Crack Control System	47
1069 Pole and Tower	49
1074 Control Equipment	52
1076 Wire and Cable	57
1081 Materials for Planting	58
1083 Elastomeric Bearings	60
1094 Overhead Sign Structures	61
1101 General Equipment	62
1102 Hot-Mix Asphalt Equipment	63
1106 Work Zone Traffic Control Devices	64

RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>	<u>PAGE NO.</u>
1 <input checked="" type="checkbox"/> Additional State Requirements For Federal-Aid Construction Contracts (Eff. 2-1-69) (Rev. 1-1-07)	65
2 <input checked="" type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts) (Eff. 1-1-88) (Rev. 5-1-93)	67
3 <input checked="" type="checkbox"/> EEO (Eff. 7-21-78) (Rev. 11-18-80)	68
4 <input type="checkbox"/> Specific Equal Employment Opportunity Responsibilities Non Federal-Aid Contracts (Eff. 3-20-69) (Rev. 1-1-94)	78
5 <input type="checkbox"/> Required Provisions - State Contracts (Eff. 4-1-65) (Rev. 1-1-07)	83
6 <input type="checkbox"/> Reserved	88
7 <input type="checkbox"/> Reserved	89
8 <input type="checkbox"/> Haul Road Stream Crossings, Other Temporary Stream Crossings, and In-Stream Work Pads (Eff. 1-2-92) (Rev. 1-1-98)	90
9 <input checked="" type="checkbox"/> Construction Layout Stakes Except for Bridges (Eff. 1-1-99) (Rev. 1-1-07)	91
10 <input type="checkbox"/> Construction Layout Stakes (Eff. 5-1-93) (Rev. 1-1-07)	94
11 <input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing (Eff. 1-1-95) (Rev. 1-1-07)	97
12 <input type="checkbox"/> Subsealing of Concrete Pavements (Eff. 11-1-84) (Rev. 1-1-07)	99
13 <input type="checkbox"/> Hot-Mix Asphalt Surface Correction (Eff. 11-1-87) (Rev. 1-1-09)	103
14 <input type="checkbox"/> Pavement and Shoulder Resurfacing (Eff. 2-1-00) (Rev. 1-1-09)	105
15 <input type="checkbox"/> PCC Partial Depth Hot-Mix Asphalt Patching (Eff. 1-1-98) (Rev. 1-1-07)	106
16 <input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal (Eff. 10-1-95) (Rev. 1-1-07)	108
17 <input type="checkbox"/> Polymer Concrete (Eff. 8-1-95) (Rev. 1-1-08)	109
18 <input type="checkbox"/> PVC Pipeliner (Eff. 4-1-04) (Rev. 1-1-07)	111
19 <input checked="" type="checkbox"/> Pipe Underdrains (Eff. 9-9-87) (Rev. 1-1-07)	112
20 <input checked="" type="checkbox"/> Guardrail and Barrier Wall Delineation (Eff. 12-15-93) (Rev. 1-1-97)	113
21 <input type="checkbox"/> Bicycle Racks (Eff. 4-1-94) (Rev. 1-1-07)	117
22 <input type="checkbox"/> Temporary Modular Glare Screen System (Eff. 1-1-00) (Rev. 1-1-07)	119
23 <input type="checkbox"/> Temporary Portable Bridge Traffic Signals (Eff. 8-1-03) (Rev. 1-1-07)	121
24 <input type="checkbox"/> Work Zone Public Information Signs (Eff. 9-1-02) (Rev. 1-1-07)	123
25 <input type="checkbox"/> Night Time Inspection of Roadway Lighting (Eff. 5-1-96)	124
26 <input type="checkbox"/> English Substitution of Metric Bolts (Eff. 7-1-96)	125
27 <input type="checkbox"/> English Substitution of Metric Reinforcement Bars (Eff. 4-1-96) (Rev. 1-1-03)	126
28 <input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete (Eff. 1-1-01)	127
29 <input type="checkbox"/> Reserved	128
30 <input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant (Eff. 8-1-00) (Rev. 1-1-09)	129
31 <input checked="" type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures (Eff. 4-1-92) (Rev. 1-1-09)	137
32 <input type="checkbox"/> Asbestos Bearing Pad Removal (Eff. 11-1-03)	149
33 <input type="checkbox"/> Asbestos Hot-Mix Asphalt Surface Removal (Eff. 6-1-89) (Rev. 1-1-09)	150
LRS 1 <input type="checkbox"/> Reserved	152
LRS 2 <input type="checkbox"/> Furnished Excavation (Eff. 1-1-99) (Rev. 1-1-07)	153
LRS 3 <input checked="" type="checkbox"/> Work Zone Traffic Control (Eff. 1-1-99) (Rev. 1-1-07).....	154
LRS 4 <input type="checkbox"/> Flaggers in Work Zones (Eff. 1-1-99) (Rev 1-1-07).....	155
LRS 5 <input type="checkbox"/> Contract Claims (Eff. 1-1-02) (Rev. 1-1-07).....	156
LRS 6 <input type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals (Eff. 1-1-02).....	157
LRS 7 <input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals (Eff. 1-1-02) (Rev. 1-1-03).....	163
LRS 8 <input type="checkbox"/> Failure to Complete the Work on Time (Eff. 1-1-99).....	169
LRS 9 <input type="checkbox"/> Bituminous Surface Treatments (Eff. 1-1-99)	170
LRS 10 <input type="checkbox"/> Reflective Sheeting Type C (Eff. 1-1-99) (Rev. 1-1-02)	171
LRS 11 <input type="checkbox"/> Employment Practices (Eff. 1-1-99)	172
LRS 12 <input type="checkbox"/> Wages of Employees on Public Works (Eff. 1-1-99) (Rev. 4-1-06).....	174
LRS 13 <input type="checkbox"/> Selection of Labor (Eff. 1-1-99)	175
LRS 14 <input type="checkbox"/> Paving Brick and Concrete Paver Pavements and Sidewalks (Eff. 1-1-04) (Rev. 1-1-09).....	176
LRS 15 <input type="checkbox"/> Partial Payments (Eff. 1-1-07)	179

INDEX OF SPECIAL PROVISIONS

INDEX OF SPECIAL PROVISIONS

SPECIAL PROVISIONS (BLR11310)

SPECIAL PROVISIONS

LOCATION AND DESCRIPTION OF IMPROVEMENT1
DIVISION 1002
102 ADVERTISEMENT, BIDDING, AWARD AND CONTRACT EXECUTION2
105.07 COOPERATION WITH UTILITIES.....2
105.08 COOPERATION BETWEEN CONTRACTORS3
105.09 SURVEY CONTROL POINTS.....3
107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC.....4
107.09 PUBLIC CONVENIENCE AND SAFETY.....5
107.20 PROTECTION AND RESTORATION OF PROPERTY6
107.23 PROTECTION OF STREAMS, LAKES, RESERVOIRS, NATURAL AREAS,
WETLANDS, PRAIRIE AREAS, SAVANNAHS, AND ENDANGERED AND
THREATENED SPECIES.....6
107.25 PROTECTION AND RESTORATION OF TRAFFIC SIGNS.....7
107.27 INSURANCE8
107.29 OPENING OF SECTION OF HIGHWAY TO TRAFFIC11
108 PROSECUTION AND PROGRESS11
DIVISION 20012
20100XXX TREE REMOVAL12
20101100 TREE TRUNK PROTECTION.....13
20101200 TREE ROOT PRUNING.....14
20200100 EARTH EXCAVATION15
20400800 FURNISHED EXCAVATION17
20700300 POROUS GRANULAR EMBANKMENT, SPECIAL18
20800150 TRENCH BACKFILL.....19
21101615 TOPSOIL FURNISH AND PLACE, 4"20
21301052 EXPLORATION TRENCH 52" DEPTH21
25000210 SEEDING, CLASS 2A22
25100800 EROSION CONTROL MAT23
28000400 PERIMETER EROSION BARRIER.....24
28200200 FILTER FABRIC.....28
DIVISION 30030
301 SUBGRADE PREPARATION.....30
35100500 AGGREGATE BASE COURSE, TYPE A 6".....32
DIVISION 40033
40201000 AGGREGATE FOR TEMPORARY ACCESS.....33
406.11 SURFACE TESTS35
40600100 BITUMINOUS MATERIALS (PRIME COAT).....36
42400800 DETECTABLE WARNINGS37
44000155 HOT-MIX ASPHALT SURFACE REMOVAL 1-1/2".....38
45100100 CRACK ROUTING (PAVEMENT).....39
45100200 CRACK FILLING40
DIVISION 50042
54247150 GRATING FOR CONCRETE FLARED END SECTION 30"42

55039700	STORM SEWERS TO BE CLEANED.....	43
56400300	FIRE HYDRANTS TO BE ADJUSTED.....	44
DIVISION 600	.....	45
6020xxxx	CATCH BASINS, TYPE A.....	45
60260050	SANITARY MANHOLES TO BE RECONSTRUCTED.....	46
60300205	FRAMES AND GRATES TO BE ADJUSTED (SPECIAL).....	47
604	FRAMES, GRATES, AND MEDIAN INLETS.....	48
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24.....	49
611xxxxx	STORM SEWER, SPECIAL.....	50
66410300	CHAIN LINK FENCE REMOVAL.....	51
66503400	BARBED WIRE FENCE REMOVAL.....	52
DIVISION 700	.....	53
70101700	TRAFFIC CONTROL AND PROTECTION.....	53
708	PAVEMENT STRIPING.....	66
78008210	POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4".....	67
78100100	RAISED REFLECTIVE PAVEMENT MARKER.....	75
78200400	GUARDRAIL REFLECTORS.....	76
78201000	TERMINAL MARKER - DIRECT APPLIED.....	77
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL.....	78
DIVISION 800	.....	79
817	WIRE AND CABLE.....	79
	LAKE COUNTY DIVISION OF TRANSPORTATION TRAFFIC SIGNAL SPECIFICATIONS.....	81
878004XX	CONCRETE FOUNDATION, TYPE E XX-INCH DIAMETER.....	134
IDOT SPECIAL PAY ITEMS FOR ROAD AND BRIDGE CONSTRUCTION	.....	135
A200	TREE PLANTING.....	135
D200	TREE PLANTING.....	135
X0301797	GATE REMOVAL.....	137
X0301850	FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (FLARED).....	138
X0321524	CHIMNEY SEAL.....	139
	.....	139
X0321556	SANITARY MANHOLES TO BE ADJUSTED.....	140
X0322923	SEGMENTAL CONCRETE BLOCK WALL.....	141
X0323013	TUBULAR STEEL GATE.....	146
X0325151	REMOVE EXISTING LIGHT POLE.....	147
X0712400	TEMPORARY PAVEMENT.....	148
X2010510	CLEARING AND GRUBBING.....	149
X2800105	TEMPORARY DITCH CHECKS, URETHANE FOAM/GEOTEXTILE.....	150
X2800500	INLET PROTECTION, SPECIAL.....	151
X6013600	PIPE UNDERDRAINS 4" (MODIFIED).....	154
X6700405	ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED).....	155
X8900010	TEMPORARY TRAFFIC SIGNAL INTERCONNECT.....	156
XX001758	WOOD FENCE REMOVAL.....	157
XX003503	FLARED END SECTION REMOVAL.....	158
XX004878	MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS.....	159
XX005940	REMOTE CONTROLLED VIDEO SYSTEM.....	161
XX006652	STAMPED COLORED PORTLAND CEMENT CONCRETE MEDIAN SURFACE 4 INCH (SPECIAL).....	162
XX006658	FLOCCULATION LOGS.....	163
XX006659	FLOCCULATION POWDER.....	163

XX206400 MAILBOX POST	165
XZ161800 TRAILER MOUNTED ARROW BOARD, TYPE B	166
Z0001050 AGGREGATE SUBGRADE 12"	167
Z0013798 CONSTRUCTION LAYOUT	169
Z0062400 SAWING HOT-MIX ASPHALT PAVEMENT	172
LAKE COUNTY PAY ITEMS	173
BACKER MATERIAL	173
INSTALL SURVEY MONUMENTS	174
ELECTRIC CABLE IN CONDUIT, NO. 18 3C, VIDEO	175
RELOCATE EXISTING REMOTE-CONTROLLED VIDEO SYSTEM	176
IDOT DISTRICT 1 SPECIAL PROVISIONS	177
USE OF RAP (DIST 1)	177
FINE AGGREGATE FOR HOT-MIX ASPHALT (HMA) (D-1)	184
TEMPERATURE CONTROL FOR CONCRETE PLACEMENT (DISTRICT ONE)	185
HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (D-1)	186
EPOXY COATING ON REINFORCEMENT (DISTRICT ONE)	188
MAINTENANCE OF ROADWAYS	189

SPECIAL PROVISION FOR CONSTRUCTION DEBRIS 190

FORM ESRF (BORROW) WITH RELEASE FORM (BDE2289) 192

EROSION AND SEDIMENT CONTROL ANALYSIS (BDE2394) 194

STORMWATER POLLUTION PREVENTION PLAN (NPDES) 195

IDNR PERMIT (NE2009050) 202

INDEX LOCAL ROADS AND STREETS SPECIAL PROVISIONS

LR #	Pg #	Special Provision Title	Effective	Revised
LR SD 12		<input type="checkbox"/> Slab Movement Detection Device	Nov. 11, 1984	Jan. 1, 2007
LR SD 13		<input type="checkbox"/> Required Cold Milled Surface Texture	Nov. 1, 1987	Jan. 1, 2007
LR 102		<input type="checkbox"/> Protests on Local Lettings	Jan. 1, 2007	
LR 105		<input type="checkbox"/> Cooperation with Utilities	Jan. 1, 1999	Jan. 1, 2007
LR 107-2		<input type="checkbox"/> Railroad Protective Liability Insurance for Local Lettings	Mar. 1, 2005	Jan. 1, 2006
LR 107-3		<input type="checkbox"/> Disadvantaged Business Enterprise Participation	Jan. 1, 2007	Nov. 1, 2008
LR 107-4	205	<input checked="" type="checkbox"/> Insurance	Feb. 1, 2007	Aug. 1, 2007
LR 107-5		<input type="checkbox"/> Substance Abuse Prevention Program	Jan. 1, 2008	Jan. 8, 2008
LR 108		<input type="checkbox"/> Combination Bids	Jan. 1, 1994	Mar. 1, 2005
LR 212		<input type="checkbox"/> Shaping Roadway	Aug. 1, 1969	Jan. 1, 2002
LR 355-1		<input type="checkbox"/> Asphalt Stabilized Base Course, Road Mix or Traveling Plant Mix	Oct. 1, 1973	Jan. 1, 2007
LR 355-2		<input type="checkbox"/> Asphalt Stabilized Base Course, Plant Mix	Feb. 2, 1963	Jan. 1, 2007
LR 400-1		<input type="checkbox"/> Bituminous Treated Earth Surface	Jan. 1, 2008	
LR 400-2		<input type="checkbox"/> Bituminous Surface Mixture (Class B)	Jan. 1, 2008	
LR 400-3		<input type="checkbox"/> Pavement Rehabilitation by the Heat-Scarify-Overlay Method	Jan. 1, 2008	
LR 402		<input type="checkbox"/> Salt Stabilized Surface Course	Feb. 20, 1963	Jan. 1, 2007
LR 403-2		<input type="checkbox"/> Bituminous Hot Mix Sand Seal Coat	Aug. 1, 1969	Jan. 1, 2007
LR 406		<input type="checkbox"/> Filling HMA Core Holes with Non-shrink Grout	Jan. 1, 2008	
LR 420		<input type="checkbox"/> PCC Pavement (Special)	May 12, 1964	Jan. 2, 2007
LR 442		<input type="checkbox"/> Bituminous Patching Mixtures for Maintenance Use	Jan. 1, 2004	Jun. 1, 2007
LR 451		<input type="checkbox"/> Crack Filling Bituminous Pavement with Fiber-Asphalt	Oct. 1, 1991	Jan. 1, 2007
LR 503-1		<input type="checkbox"/> Furnishing Class SI Concrete	Oct. 1, 1973	Jan. 1, 2002
LR 503-2		<input type="checkbox"/> Furnishing Class SI Concrete (Short Load)	Jan. 1, 1989	Jan. 1, 2002
LR 542		<input type="checkbox"/> Pipe Culverts, Type _____ (Furnished)	Sep. 1, 1964	Jan. 1, 2007
LR 663		<input type="checkbox"/> Calcium Chloride Applied	Jun. 1, 1958	Jan. 1, 2007
LR 702		<input type="checkbox"/> Construction and Maintenance Signs	Jan. 1, 2004	Jun. 1, 2007
LR 1004		<input type="checkbox"/> Coarse Aggregate for Bituminous Surface Treatment	Jan. 1, 2002	Jan. 1, 2007
LR 1013		<input type="checkbox"/> Rock Salt (Sodium Chloride)	Aug. 1, 1969	Jan. 1, 2002
LR 1030		<input type="checkbox"/> Growth Curve	Mar. 1, 2008	
LR 1032-1		<input type="checkbox"/> Penetrating Emulsions	Jan. 1, 2007	Feb. 1, 2007
LR 1032-2		<input type="checkbox"/> Multigrade Cold Mix Asphalt	Jan. 1, 2007	Feb. 1, 2007
LR 1102		<input type="checkbox"/> Road Mix or Traveling Plan Mix Equipment	Jan. 1, 2007	

BDE SPECIAL PROVISIONS
For the July 31 and September 18, 2009 Lettings

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

File Name	Pg#		Special Provision Title	Effective	Revised
* 80240			Above Grade Inlet Protection	July 1, 2009	
80099			Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2007
80186	206	X	Alkali-Silica Reaction for Cast-in-Place Concrete	Aug. 1, 2007	Jan. 1, 2009
80213	209	X	Alkali-Silica Reaction for Precast and Precast Prestressed Concrete	Jan. 1, 2009	
* 80243			American Recovery and Reinvestment Act Provisions	April 1, 2009	
* 80236			American Recovery and Reinvestment Act Signing	April 1, 2009	April 15, 2009
80207	212	X	Approval of Proposed Borrow Areas, Use Areas, and/or Waste Areas Inside Illinois State Borders	Nov. 1, 2008	
80192			Automated Flagger Assistance Device	Jan. 1, 2008	
80173			Bituminous Materials Cost Adjustments	Nov. 2, 2006	April 1, 2009
* 80241			Bridge Demolition Debris	July 1, 2009	
50261			Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	Jan. 1, 2007
50481			Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	Jan. 1, 2007
50491			Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	Jan. 1, 2007
50531			Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	Jan. 1, 2007
80166	213	X	Cement	Jan. 1, 2007	April 1, 2009
80198			Completion Date (via calendar days)	April 1, 2008	
80199			Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80094	216	X	Concrete Admixtures	Jan. 1, 2003	April 1, 2009
80193			Concrete Barrier	Jan. 1, 2008	
80214			Concrete Gutter, Type A	Jan. 1, 2009	
80215			Concrete Joint Sealer	Jan. 1, 2009	
80226			Concrete Mix Designs	April 1, 2009	
* 80237	220	X	Construction Air Quality – Diesel Vehicle Emissions Control	April 1, 2009	July 1, 2009
* 80239	222	X	Construction Air Quality – Idling Restrictions	April 1, 2009	
80227			Determination of Thickness	April 1, 2009	
80177			Digital Terrain Modeling for Earthwork Calculations	April 1, 2007	
80029	224	X	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Nov. 1, 2008
80178	232	X	Dowel Bars	April 1, 2007	Jan. 1, 2008
80179			Engineer's Field Office Type A	April 1, 2007	Aug. 1, 2008
80205			Engineer's Field Office Type B	Aug. 1, 2008	
80175			Epoxy Pavement Markings	Jan. 1, 2007	
80189	233	X	Equipment Rental Rates	Aug. 2, 2007	Jan. 2, 2008
80228	235	X	Flagger at Side Roads and Entrances	April 1, 2009	
80229			Fuel Cost Adjustment	April 1, 2009	
* 80169			High Tension Cable Median Barrier	Jan. 1, 2007	April 1, 2009
80194	236	X	HMA – Hauling on Partially Completed Full-Depth Pavement	Jan. 1, 2008	
80181	238	X	Hot-Mix Asphalt – Field Voids in the Mineral Aggregate	April 1, 2007	April 1, 2008
80201	240	X	Hot-Mix Asphalt – Plant Test Frequency	April 1, 2008	
80202	242	X	Hot-Mix Asphalt – Transportation	April 1, 2008	
80136			Hot-Mix Asphalt Mixture IL-4.75	Nov. 1, 2004	Jan. 1, 2008
80195			Hot-Mix Asphalt Mixture IL-9.5L	Jan. 1, 2008	
80109	243	X	Impact Attenuators	Nov. 1, 2003	Nov. 1, 2008
80110	245	X	Impact Attenuators, Temporary	Nov. 1, 2003	Jan. 1, 2007
80230	247	X	Liquidated Damages	April 1, 2009	
80196	248	X	Mast Arm Assembly and Pole	Jan. 1, 2008	Jan. 1, 2009
80045			Material Transfer Device	June 15, 1999	Jan. 1, 2009
80203	250	X	Metal Hardware Cast into Concrete	April 1, 2008	April 1, 2009
80165			Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2007
* 80238			Monthly Employment Report	April 1, 2009	
80082	251	X	Multilane Pavement Patching	Nov. 1, 2002	
80180	252	X	National Pollutant Discharge Elimination System / Erosion and Sediment Control Deficiency Deduction (NOTE: This special provision was previously named "Erosion and Sediment Control Deficiency Deduction".)	April 1, 2007	Nov. 1, 2008
80208			Nighttime Work Zone Lighting	Nov. 1, 2008	

<u>File Name</u>	<u>Pg#</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80129			Notched Wedge Longitudinal Joint	July 1, 2004	Jan. 1, 2007
80182			Notification of Reduced Width	April 1, 2007	
80069			Organic Zinc-Rich Paint System	Nov. 1, 2001	Jan. 1, 2008
80216			Partial Exit Ramp Closure for Freeway/Expressway	Jan. 1, 2009	
80231	253	X	Pavement Marking Removal	April 1, 2009	
80022	254	X	Payments to Subcontractors	June 1, 2000	Jan. 1, 2006
80235	256	X	Payrolls and Payroll Records	March 1, 2009	July 1, 2009
80209	258	X	Personal Protective Equipment	Nov. 1, 2008	
80232			Pipe Culverts	April 1, 2009	
80134	259	X	Plastic Blockouts for Guardrail	Nov. 1, 2004	Jan. 1, 2007
80119	260	X	Polyurea Pavement Marking	April 1, 2004	Jan. 1, 2009
80210			Portland Cement Concrete Inlay or Overlay	Nov. 1, 2008	
80170			Portland Cement Concrete Plants	Jan. 1, 2007	
80217			Post Clips for Extruded Aluminum Signs	Jan. 1, 2009	
80171	267	X	Precast Handling Holes	Jan. 1, 2007	
80218			Preventive Maintenance – Bituminous Surface Treatment	Jan. 1, 2009	April 1, 2009
80219			Preventive Maintenance – Cape Seal	Jan. 1, 2009	April 1, 2009
80220			Preventive Maintenance – Micro-Surfacing	Jan. 1, 2009	
80221			Preventive Maintenance – Slurry Seal	Jan. 1, 2009	
80211			Prismatic Curb Reflectors	Nov. 1, 2008	
80015			Public Convenience and Safety	Jan. 1, 2000	
34261			Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157			Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80223			Ramp Closure for Freeway/Expressway	Jan. 1, 2009	
80172			Reclaimed Asphalt Pavement (RAP)	Jan. 1, 2007	April 1, 2009
80183	269	X	Reflective Sheeting on Channelizing Devices	April 1, 2007	Nov. 1, 2008
80151	270	X	Reinforcement Bars	Nov. 1, 2005	April 1, 2009
80206	272	X	Reinforcement Bars – Storage and Protection	Aug. 1, 2008	April 1, 2009
80224			Restoring Bridge Approach Pavements Using High-Density Foam	Jan. 1, 2009	
80184			Retroreflective Sheeting, Nonreflective Sheeting, and Translucent Overlay Film for Highway Signs	April 1, 2007	
80131	273	X	Seeding	July 1, 2004	July 1, 2009
80152	276	X	Self-Consolidating Concrete for Cast-In-Place Construction	Nov. 1, 2005	Jan. 1, 2009
80132	281	X	Self-Consolidating Concrete for Precast Products	July 1, 2004	Jan. 1, 2007
80212			Sign Panels and Sign Panel Overlays	Nov. 1, 2008	
80197	283	X	Silt Filter Fence	Jan. 1, 2008	
80127			Steel Cost Adjustment	April 2, 2004	April 1, 2009
80153	284	X	Steel Plate Beam Guardrail	Nov. 1, 2005	Aug. 1, 2007
80191	285	X	Stone Gradation Testing	Nov. 1, 2007	
80234			Storm Sewers	April 1, 2009	
80143	286	X	Subcontractor Mobilization Payments	April 2, 2005	
80075			Surface Testing of Pavements	April 1, 2002	Jan. 1, 2007
80087	287	X	Temporary Erosion Control	Nov. 1, 2002	Jan. 1, 2008
80225			Temporary Raised Pavement Marker	Jan. 1, 2009	
80176	288	X	Thermoplastic Pavement Markings	Jan. 1, 2007	
20338	290	X	Training Special Provisions	Oct. 15, 1975	
80185			Type ZZ Retroreflective Sheeting, Nonreflective Sheeting, and Translucent Overlay Film for Highway Signs	April 1, 2007	
80149			Variable Spaced Tining	Aug. 1, 2005	Jan. 1, 2007
80071	293	X	Working Days	Jan. 1, 2002	
80204			Woven Wire Fence	April 1, 2008	

The following special provisions are in the 2009 Supplemental Specifications and Recurring Special Provisions:

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80108	Asbestos Bearing Pad Removal	Check Sheet #32	Nov. 1, 2003	
72541	Asbestos Waterproofing Membrane and Asbestos Hot-Mix Asphalt Surface Removal	Check Sheet #33	June 1, 1989	Jan. 2, 2007
80167	Electrical Service Installation – Traffic Signals	Section 805	Jan. 1, 2007	
80164	Removal and Disposal of Regulated Substances	Section 669	Aug. 1, 2006	Jan. 1, 2007
80161	Traffic Signal Grounding	Sections 873 and 1076	April 1, 2006	Jan. 1, 2007

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80162	Uninterruptable Power Supply (UPS)	Sections 801, 862 and 1074	April 1, 2006	Jan. 1, 2007
80163	Water Blaster with Vacuum Recovery	Articles 783.02 and 1101.12	April 1, 2006	Jan. 1, 2007

The following special provisions require additional information from the designer. The additional information needs to be included in a separate document attached to this check sheet. The Project Development and Implementation section will then include the information in the applicable special provision. The Special Provisions are:

- Building Removal-Case I
- Building Removal-Case II
- Building Removal-Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Material Transfer Device
- Railroad Protective Liability Insurance
- Right-of-Entry Permit
- Training Special Provisions
- Working Days

GUIDE BRIDGE SPECIAL PROVISION INDEX/CHECK SHEET
Effective as of the: July 31, 2009 Letting

√	Pg #	File Name	Title	Effective	Revised
		GBSP4	Polymer Modified Portland Cement Mortar	June 7, 1994	June 1, 2007
X	294	GBSP11	Permanent Steel Sheet Piling	Dec 15, 1993	Jan 1, 2007
		GBSP12	Drainage System	June 10, 1994	Jan 1, 2007
		GBSP13	High-Load Multi-Rotational Bearings	Oct 13, 1988	Mar 6, 2009
		GBSP14	Jack and Remove Existing Bearings	April 20, 1994	Jan 1, 2007
		GBSP15	Three Sided Precast Concrete Structure	July 12, 1994	Mar 6, 2009
		GBSP16	Jacking Existing Superstructure	Jan 11, 1993	Jan 1, 2007
		GBSP17	Bonded Preformed Joint Seal	July 12, 1994	Jan 1, 2007
		GBSP18	Modular Expansion Joint	May 19, 1994	Jan 1, 2007
		GBSP21	Cleaning and Painting Contact Surface Areas of Existing Steel Structures	June 30, 2003	Jan 1, 2007
		GBSP22	Cleaning and Painting New Metal Structures	Sept 13, 1994	May 11, 2009
		GBSP25	Cleaning and Painting Existing Steel Structures	Oct 2, 2001	May 11, 2009
		GBSP26	Containment and Disposal of Lead Paint Cleaning Residues	Oct 2, 2001	Mar 6, 2009
		GBSP28	Deck Slab Repair	May 15, 1995	Jan 12, 2009
		GBSP29	Bridge Deck Microsilica Concrete Overlay	May 15, 1995	May 11, 2009
		GBSP30	Bridge Deck Latex Concrete Overlay	May 15, 1995	May 11, 2009
		GBSP31	Bridge Deck High-Reactivity Metakaolin (HRM) Conc Overlay	Jan 21, 2000	May 11, 2009
		GBSP32	Temporary Sheet Piling	Sept 2, 1994	Jan 1, 2007
		GBSP33	Pedestrian Truss Superstructure	Jan 13, 1998	Mar 6, 2009
		GBSP34	Concrete Wearing Surface	June 23, 1994	Jan 12, 2009
		GBSP35	Silicone Bridge Joint Sealer	Aug 1, 1995	Jan 1, 2007
		GBSP36	Surface Preparation and Painting Req. for Weathering Steel	Nov 21, 1997	May 11, 2009
		GBSP37	Underwater Structure Excavation Protection	April 1, 1995	Mar 6, 2009
		GBSP38	Mechanically Stabilized Earth Retaining Walls	Feb 3, 1999	Mar 6, 2009
		GBSP42	Drilled Soldier Pile Retaining Wall	Sept 20, 2001	May 11, 2009
		GBSP43	Driven Soldier Pile Retaining Wall	Nov 13, 2002	May 11, 2009
X	296	GBSP44	Temporary Soil Retention System	Dec 30, 2002	May 11, 2009
		GBSP45	Bridge Deck Thin Polymer Overlay	May 7, 1997	Jan 1, 2007
		GBSP46	Geotextile Retaining Walls	Sept 19, 2003	May 11, 2009
		GBSP47	High Performance Concrete Structures	Aug 5, 2002	Jan 1, 2007
		GBSP50	Removal of Existing Non-composite Bridge Decks	June 21, 2004	Jan 1, 2007
		GBSP51	Pipe Underdrain for Structures	May 17, 2000	Jan 1, 2007
		GBSP52	Porous Granular Embankment (Special)	Sept 28, 2005	Nov 14, 2008
		GBSP53	Structural Repair of Concrete	Mar 15, 2006	May 11, 2009
		GBSP55	Erection of Curved Steel Structures	June 1, 2007	
		GBSP56	Setting Piles in Rock	Nov 14, 1996	Jan 1, 2007
		GBSP57	Temporary Mechanically Stabilized Earth Retaining Walls	Jan 6, 2003	April 2, 2008
		GBSP58	Mechanical Splicers	Sep 21, 1995	May 11, 2009
		GBSP59	Diamond Grinding and Surface Testing Bridge Sections	Dec 6, 2004	July 9, 2008
		GBSP60	Containment and Disposal of Non-Lead Pain Cleaning Residues	Nov 25, 2004	Mar 6, 2009
		GBSP61	Slipform Parapet	June 1, 2007	Jan 12, 2009
		GBSP62	Concrete Deck Beams	June 13, 2008	Nov 14, 2008
		GBSP63	Demolition Plans for Removal of Existing Structures	Sept 5, 2007	
		GBSP64	Segmental Concrete Block Wall	Jan 7, 1999	July 9, 2008
		GBSP65	Precast Modular Retaining Walls	Mar 19, 2001	May 11, 2009
		GBSP66	Wave Equation Analysis of Piles	Nov 14, 2008	
		GBSP67	Structural Assessment Reports for Contractor's Means and Methods	Mar 6, 2009	
		GBSP68	Piling	May 11, 2009	

LIST ADDITIONAL SPECIAL PROVISIONS BELOW

STATE OF ILLINOIS
SPECIAL PROVISIONS

The following Special Provisions supplement the specifications listed in the table below, which apply to and govern the proposed improvement designated as Lake County Section **02-00110-12-WR**, and in case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and govern.

SPECIFICATION	ADOPTED/DATED
Standard Specifications for Road and Bridge Construction	January 1, 2007
Manual on Uniform Traffic Control Devices for Streets and Highways Illinois Supplement	2003 Edition November 2004
Supplemental Specifications and Recurring Special Provisions (indicated on the Check Sheet included herein)	January 1, 2009
Standard Specifications for Water & Sewer main Construction in Illinois	Current edition

LOCATION OF IMPROVEMENT

This project begins at a point on the centerline of Washington Street approximately 1222.89 feet east of the centerline of Cemetery Road and extends in a easterly direction through Lake County to west of the centerline of Illinois Route 21 for a total distance of 4950.02 feet. The project improvements also include reconstruction of Tri-State Parkway for a distance of 350.50 feet.

DESCRIPTION OF IMPROVEMENT

This project is a roadway reconstruction of Washington Street, with the intersection reconstruction of Tri-State Parkway and Six Flags Drive. The work to be performed under this contract includes, but is not limited to a five lane full depth HMA pavement on aggregate subgrade with concrete curb and gutter, landscaping, culvert replacements, storm sewers construction, traffic signal and interconnect improvements, retaining walls, multi-use path and all incidental and collateral work necessary to complete the project as shown on the plans and as described herein.

DIVISION 100. GENERAL REQUIREMENTS AND COVENANTS

SECTION 102 ADVERTISEMENT, BIDDING, AWARD AND CONTRACT EXECUTION

Effective: January 1, 2007

Award and execution of contract shall be in accordance with Section 102 of the "Standard Specifications" and the following:

*Insurance certificates shall be received within **five (5) days** after the contract has been mailed to the bidder. Contract performance and payment **bond** shall be received within **ten (10) days** after the contract has been mailed to the bidder. The contract shall be executed by the successful bidder and returned within fifteen (15) days after the contract has been mailed to the bidder.*

ARTICLE 105.07 COOPERATION WITH UTILITIES

Effective: January 1, 2007

The Contractor shall coordinate with applicable utilities according to Article 105.07 of the "Standard Specifications" and the following:

The Contractor shall be aware of the location of all utilities and structures in the project area. The Contractor shall conduct construction operations to avoid damage to the above-mentioned utilities or structures.

Should any damage to utilities occur, due to the Contractor's negligence, the Contractor shall be responsible for making all repairs, in a manner acceptable to the Engineer. All costs associated with making the repairs shall be the responsibility of the Contractor.

The Contractor shall be aware of the locations of vehicle detector loops cut into the pavement. Any vehicle detector loop damaged by the Contractor's negligence shall be repaired by the Contractor in a manner acceptable to the Engineer. All costs associated with making the repairs shall be the responsibility of the Contractor.

The Contractor shall notify all utility owners of the proposed construction schedule, and shall coordinate construction operations with the utility owners so that relocation of utility lines and structures may proceed in an orderly manner. Notification shall be in writing with copies transmitted to the Engineer.

ARTICLE 105.08 COOPERATION BETWEEN CONTRACTORS

Effective: January 1, 2007

The Contractor shall coordinate with adjacent contracts according to Article 105.08 of the "Standard Specifications" and the following:

The Contractor is advised that certain operations will involve cooperation with Lake County personnel and Contractors performing work on or adjacent to this project for the Lake County Division of Transportation, Village of Gurnee, and Illinois Tollway. The Contractor shall cooperate to the fullest extent with Lake County, Village of Gurnee, Illinois Tollway and the Contractors working on adjacent projects in compliance with the provisions of Article 105.08 of the Standard Specifications.

ARTICLE 105.09 SURVEY CONTROL POINTS

Effective: January 1, 2007

The Contractor shall furnish the Engineer with the materials required to establish survey control points according to Article 105.09 of the "Standard Specifications" and the following:

Paint: *The Contractor shall furnish, at their expense, white, pink or purple pavement marking paint in aerosol cans, for use by the Engineer. The quality of the marking paint shall be as manufactured by Aervoe-Pacific Co. (distributed by Municipal Marking Distributors, Inc., Dundee, IL) or approved equal.*

The Contractor and subcontractors shall only use white, pink or purple colors for their own markings. At no time will the Contractor use any of the J.U.L.I.E. utility colors listed in Article 107.31 of the "Standard Specifications".

Hubs: *The Contractor shall furnish, at their expense, hubs for use by the Engineer according to the following:*

1. *Shall be 1 3/8" x 7/8" x 18" (actual dimension).*
2. *Shall be furnished in securely banded (on each end) bundles of 25 pieces.*
3. *The material shall be kiln dried Douglas fir, oak or maple and surfaced on the 2 larger sides and without splits, pitch pockets, wane, knots or decayed wood.*
4. *The tapered end on each hub shall be pencil point tapered.*

Lath: *The Contractor shall furnish, at their expense, lath for use by the Engineer according to the following:*

1. Shall be 1 1/8" x 1/2" x 48" (actual dimension).
2. Shall be furnished in securely banded (on each end) bundles of 50 pieces.
3. The material shall be kiln dried Douglas fir, oak or maple and surfaced on the 2 larger sides and without splits, pitch pockets, wane, knots or decayed wood.
4. The tapered end may be saw-cut tapered or pencil tapered.

SECTION 107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

Effective: January 1, 2007

The Contractor shall observe and comply with the Legal Regulations and Public Responsibilities according to Section 107 of the "Standard Specifications" and the following:

Protection of Existing Drainage Facilities During Construction: *All existing drainage structures shall be kept free of debris resulting from construction operations. All work and material necessary to prevent accumulation of debris in the drainage structures will be considered as incidental to the contract. Any debris in the drainage structures resulting from construction operations shall be removed at the Contractor's own expense, and no extra compensation will be allowed.*

Should reconstruction or adjustment of a drainage structure be required by the Engineer in the field, the necessary work and payment shall be done in accordance with Section 602 and Article 104.02 respectively of the "Standard Specifications".

During construction, if the Contractor's forces encounter or otherwise becomes aware of any sewers, underdrains or field drains within the right-of-way other than those shown on the plans, they shall inform the Engineer. The Engineer shall direct the work necessary to maintain or replace the facilities in service, and to protect them from damage during construction if maintained. Existing facilities to be maintained that are damaged because of non-compliance with this provision shall be replaced at the Contractor's own expense. Should the Engineer direct the replacement of a facility, the necessary work and payment shall be done in accordance with Section 550, Section 601 and Article 104.02 respectively of the "Standard Specifications".

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

The work involved in maintaining the existing pavement and shoulders as above specified, will be paid for separately at the respective contract unit prices for the various items of work involved unless specified elsewhere in these Special Provisions. Traffic control and protection required for this work shall be paid for as specified in these Special Provisions.

If no such items of work have been provided for in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for as extra work, in accordance with Article 109.04 of the "Standard Specifications".

Construction Safety and Health Standards: It is a condition of this contract and shall be made a condition of each subcontract entered into pursuant to this contract that the Contractor and any Subcontractor shall not require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to their health or safety, as determined under Federal Construction Safety and Health Standards.

ARTICLE 107.09 PUBLIC CONVENIENCE AND SAFETY

Effective: January 1, 2007

The Contractor shall limit public inconveniences safety conflicts according to Article 107.09 of the "Standard Specifications" and the following:

Keeping Roads Open to Traffic: All roads shall remain open to traffic. The Contractor may close one (through traffic) lane because of construction only between the hours of 9:00 AM and 3:00 PM. The Contractor shall maintain one-way traffic during these restricted hours on two lane highways with the use of signs and flaggers as shown on the Traffic Control Standard. On multi-lane highways the Contractor shall maintain at least one (through traffic) lane in each direction with the use of signs, barricades, and arrow boards as shown on the Traffic Control Standards. All lanes of traffic will be maintained between 3:00 PM and 9:00 AM and when no construction activities are being carried out.

The restricted lane closure time may be adjusted by the Resident Engineer. The Contractor shall provide a start and end time and a procedure plan 48 hours prior to the lane(s) to be closed. The Resident Engineer will notify the Contractor 24 hours in advance with the decision.

If the Contractor fails to provide notification or disregards the decision by the Resident Engineer the Traffic Control Deficiency Charge will be applied as stated in the Special Provisions for Traffic Control and Protection.

Safety and Convenience: The Contractor shall maintain entrances along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences caused by the Contractor, by complying with these requirements shall be considered as incidental to the contract and no additional compensation will be allowed.

Contractors shall plan their work so that there will be no open holes in the pavement and that all barricades will be removed from the roadway during non-working hours, except where required for public safety.

ARTICLE 107.20 PROTECTION AND RESTORATION OF PROPERTY

Effective: January 1, 2007

The Contractor shall protect and restore property according to Article 107.12 of the "Standard Specifications" and the following:

Trees and Shrubs: *Extra care shall be exercised when operating equipment around trees or shrubs. Injured branches or roots shall be pruned in a manner satisfactory to the Engineer and shall be painted where the cut was made. Roots exposed during excavating operations shall be neatly pruned and covered with topsoil. This work shall be done as soon as possible and shall be considered as incidental to the contract, and no additional compensation will be allowed.*

SECTION 107.23 PROTECTION OF STREAMS, LAKES, RESERVOIRS, NATURAL AREAS, WETLANDS, PRAIRIE AREAS, SAVANNAHS, AND ENDANGERED AND THREATENED SPECIES

Effective: April 1, 2008

CONCRETE WASHOUT FACILITY

Description: The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, reservoirs, and wetlands with fuels, oils, bitumens, calcium chloride, or other harmful materials according to Article 107.23 of the "Standard Specifications".

General: *To prevent pollution by residual concrete and/or the by product of washing out the concrete trucks, concrete washout facilities shall be constructed and maintained on any project which includes cast-in-place concrete items. The concrete washout shall be constructed, maintained, and removed according to this special provision and LCDOT standard LC4202 included in these plans. Concrete washout facilities shall be required on all projects regardless of the need for NPDES permitting. On projects requiring NPDES permitting, concrete washout facilities shall also be addressed in the Storm Water Pollution Prevention Plan.*

The concrete washout facility shall be constructed on the job site according to LC4202. The Contractor may elect to use a pre-fabricated portable concrete washout structure. The Contractor shall submit a plan for the concrete washout facility, to the Engineer for approval, a minimum of 10 calendar days before the first concrete pour. The working concrete washout

facility shall be in place before any delivery of concrete to the site. The Contractor shall ensure that all concrete washout activities are limited to the designated area.

The concrete washout facility shall be located no closer than 50 feet from any environmentally sensitive areas, such as water bodies, wetlands, and/or other areas indicated on the plans. Adequate signage shall be placed at the washout facility and elsewhere as necessary to clearly indicate the location of the concrete washout facility to the operators of concrete trucks.

The concrete washout facility shall be adequately sized to fully contain the concrete washout needs of the project. The contents of the concrete washout facility shall not exceed 75% of the facility capacity. Once the 75% capacity is reached, concrete placement shall be discontinued until the facility is cleaned out. Hardened concrete shall be removed and properly disposed of outside the right-of-way. Slurry shall be allowed to evaporate, or shall be removed and properly disposed of outside the right-of-way. The Contractor shall immediately replace damaged basin liners or other washout facility components to prevent leakage of concrete waste from the washout facility. Concrete washout facilities shall be inspected by the Contractor after each use. Any and all spills shall be reported to the Engineer and cleaned up immediately. The Contractor shall remove the concrete washout facility when it is no longer needed.

Basis of Payment: This work will not be paid for separately, but shall be incidental to the concrete work items included in the contract.

ARTICLE 107.25 PROTECTION AND RESTORATION OF TRAFFIC SIGNS

Effective: January 1, 2007

The Contractor shall protect and restore traffic signs within the limits of the project according to Article 107.25 of the "Standard Specifications" and the following:

1. All signs removed shall be reinstalled 16 feet to 18 feet off the edge of pavement where possible. In curb sections this will vary and will be determined by the Lake County Division of Transportation.
2. All single sign installations shall be installed with the bottom of the sign 5 feet above edge of pavement in rural districts, and 7 feet above the edge of pavement in business, commercial or residential districts. On installations having two or more signs, the bottom of the lowest sign shall be 4 feet above edge of pavement.
3. All signs replaced will be erected using new "Telespar" system metal bases cut 42" long from 2¼" square material. They are to be driven into solid ground using a pneumatic driver. This work will not be paid for separately but shall be considered incidental to the contract.

ARTICLE 107.27 INSURANCE

Effective: January 1, 2007

The Contractor shall obtain and thereafter keep in force insurance according to Article 107.27 of the "Standard Specifications" and the following:

1.0 Hold Harmless Clause

The Provider agrees to indemnify, save harmless and defend the County of Lake, its agents, servants, and employees and each of them against and hold it and them harmless from any and all lawsuits, claims, demands, liabilities, losses and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the County of Lake, its agents, servants, or employees or any other person indemnified hereunder.

2.0 Liability Insurance

The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the state of Illinois such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

2.1 Commercial General Liability

Commercial General Liability in a broad form on an occurrence basis, to include but not be limited to, coverage for the following where exposure exists; Premises/Operations, Contractual Liability, Products/Completed Operations, Independent Contractor's coverage to respond to claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees as well as claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the contractor, or (2) by another person and claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use therefrom.

2.2 Worker's Compensation

Worker's Compensation Insurance shall be maintained covering all liability of the contractor arising under the Worker's Compensation Act and Worker's Occupational Disease Act at limits in accordance with the laws of the State of Illinois.

2.3 Employer's Liability

Employer's Liability shall be maintained to respond to claims for damages because of bodily injury, occupational sickness or disease or death of the Contractor's employees.

2.4 Automobile Liability

Automobile Liability Insurance shall be maintained to respond to claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle. This policy shall be written to cover any auto whether owned, leased, hired or borrowed.

2.5 Minimum Limits of Liability

The Contractor's liability insurance as required by paragraphs 2.1, 2.3 and 2.4 shall be written with limits of insurance not less than the following:

2.5.1 Commercial General Liability Insurance

<i>*General Aggregate Limit (Other Than Products Completed Operations)</i>	<i>\$4,000,000</i>
<i>Products Completed Operations Aggregate Limit</i>	<i>\$4,000,000</i>
<i>Personal and Advertising Injury Limit</i>	<i>\$1,000,000</i>
<i>Each occurrence Limit</i>	<i>\$2,000,000</i>

**The policy shall be endorsed for the general aggregate to apply on a "per project" basis.*

2.5.2 Employers Liability Insurance

<i>Bodily Injury by Accident (Each Accident)</i>	<i>\$1,000,000</i>
<i>Bodily Injury by Disease (Each Employee)</i>	<i>\$1,000,000</i>
<i>Bodily Injury by Disease (Policy Limit)</i>	<i>\$1,000,000</i>

2.5.3 Automobile Liability

*Bodily Injury, Property Damage and Covered
Pollution Cost or Expense (Each Occurrence Limit) \$1,000,000*

2.6 Insurance Conditions

Lake County, its agents, officers and employees shall be named as additional insured under ISO (Insurance Services Office) additional insured endorsement CG 20 26, edition date 10/93 or its equivalent. The Contractor's insurance shall be primary and non-contributory. The contractual liability insurance coverage shall be broad enough to respond to the liability assumed by the Contractor in the Hold Harmless Clause contained herein.

Coverage shall be provided for Lake County, its officers, agents and employees, all members of Boards, Commissions, Committees, Trustees and Organizations of the County, all volunteers and members of volunteer organizations and other non-paid personnel, including college and high school interns, while acting on behalf of the County.

2.7 Certificates of Insurance

Certificates of Insurance with required endorsements acceptable to the County of Lake shall be filed with the County of Lake prior to commencement of the work, containing the following:

2.7.1 Be provided with a 30 day prior notice, in writing, of Notice of Cancellation, Non-Renewal, or material change specified within an endorsement by the insurance company.

2.7.2 Be provided with certificates of insurance evidencing the endorsement and endorsement as specified above and required insurance, prior to commencement of this contract and thereafter with certificates evidencing renewals, replacements and endorsements of said policies of insurance at least 15 days prior to expiration, cancellation or non-renewal of such policies.

2.8 Duration of Coverage

The insurance described herein shall be maintained for the duration of the contract, including warranty period.

2.9 Failure to Comply

In the event the Contractor fails to obtain or maintain any insurance coverages required under this agreement, Lake County may purchase such insurance coverages and charge the expense thereof to the Contractor.

3.0 Payment

All costs for insurance as specified herein will be considered as included in the cost of the contract.

ARTICLE 107.29 OPENING OF SECTION OF HIGHWAY TO TRAFFIC

Effective January 1, 2007

Work under construction shall be opened to traffic according to Article 107.29 of the "Standard Specifications" and the following:

The Contractor shall work expeditiously to open traffic lanes closed due to roadwork. The Engineer shall be the sole judge of when a lane is ready to be opened to traffic. The opening of a lane to traffic shall be in accordance to Section 107.29 of the "Standard Specifications".

Roadwork requiring a closure of a lane, which has been opened previously to traffic, will be allowed at the discretion of the Engineer and under the following conditions:

- 1. The lane closure shall only be in effect while workers are present in or near the closed lane.*
- 2. The closed lane will be reopened to traffic at the end of the workday.*
- 3. All traffic control devices pertaining to the lane closure shall be removed from the roadway at the end of the workday.*

SECTION 108 PROSECUTION AND PROGRESS

Effective January 1, 2007

It is the intent of the County that this project be constructed in an orderly and timely manner. Toward this end, the Contractor shall take special note of the provisions of Article 105.06, Article 108.01 paragraph 2, and Article 108.02 of the "Standard Specifications" which shall be adhered to.

The Contractor shall coordinate all work between their forces and subcontractors to enable completion within the allotted working days.

SPECIAL PROVISIONS FOR PAY ITEMS

DIVISION 200. EARTHWORK, LANDSCAPING, AND EROSION CONTROL

20100XXX TREE REMOVAL (XX)

Effective: January 1, 2007

Description: This work shall consist of cutting, grubbing, removal and disposal of trees and stumps.

General: The work shall be performed according to Article 201.04 of the "Standard Specifications" and the following:

~~Cut trees and limbs shall be disposed of within 5 working days. The cut trees and limbs shall be disposed of according to Article 202.03 of the "Standard Specifications".~~

Method of Measurement: Tree Removal will be measured for payment according to Article 201.10(b) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per unit diameter for TREE REMOVAL (of the size range specified).

20101100 TREE TRUNK PROTECTION

Effective: January 1, 2007

Description: This work shall consist of furnishing, installing and removing tree trunk protection for trees adjacent to the project site.

General: The work shall be performed according to Article 201.05 of the "Standard Specifications" and the following:

Prior to construction, the Contractor shall install a snow fence or other highly visible barrier around designated trees in a manner meeting the Engineer's approval. Visual barriers, such as single strand wire or plastic flagging, are not acceptable for this purpose. The barrier shall be maintained in the proper location and in good repair until the completion of construction. Removal and disposal of the barrier shall be the Contractor's responsibility.

Method of Measurement: Tree Trunk Protection will be measured for payment as each per tree according to Article 201.10(c) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per each for TREE TRUNK PROTECTION.

20101200 TREE ROOT PRUNING

Effective: January 1, 2007

Description: This work shall consist of pruning existing tree roots prior to trenching or excavation operations.

General: The work shall be performed according to Article 201.06 of the "Standard Specifications" and the following:

Before any trenching or excavation in the area of a tree, tree roots shall be cut with appropriate root pruning equipment to a minimum of 24" deep. The cuts shall be made 6" to 12" closer to the tree than the construction limit. This allows for root regeneration (within the 6" to 12" area) during the construction period. Pruning shall not be done at the construction limit, since the cut surfaces of the roots will remain exposed resulting in root dieback.

Method of Measurement: Tree Root Pruning will be measured for payment as each per tree according to Article 201.10(d) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per each for TREE ROOT PRUNING.

20200100 EARTH EXCAVATION

Effective: January 1, 2007
Revised: March 14, 2008

Description: This work shall consist of the excavation and transportation of suitable excavated material to embankment locations throughout the limits of the project. This work shall also consist of the excavation, transportation and disposal of excess and unsuitable materials.

General: This work shall conform to the requirements of Section 202 of the "Standard Specifications" and the following:

For this Project the Earth Excavation shall consist of:

1. Excavation to the subgrade elevation.
2. Excavation for topsoil placement.
3. The removal of bituminous material not included in any other pay item.
4. Undercutting, as determined by the Engineer to include:
 - a. Removal of existing topsoil under proposed embankment.
 - b. Removal of unsuitable material in wet areas.
5. Undercutting, based on the recommendations of the soil survey and report.
 - a. An estimated quantity of excavation for undercutting has been included in the quantity of Earth Excavation and is shown on the plans.
 - b. Undercutting may be employed only at the discretion of the Engineer after it has been determined that the provisions of Section 301 of the "Standard Specifications" will not yield sufficient results to allow the timely progress of the project.

Removal and disposal of unstable, unsuitable and/or excess material will not be paid for separately, but is incidental to and included in the contract unit price for Earth Excavation. All unstable, unsuitable and/or excess material shall be disposed of outside the right-of-way according to Article 202.03 of the "Standard Specifications".

Earth moved more than once due to construction staging and/or procedures selected by the Contractor, will not be paid for separately, but shall be considered included in the cost of Earth Excavation.

A Soil Survey and Report:

- Was performed – A copy is available online with the project plans and contract specifications and it is available for inspection and review at LCDOT.
- Was not performed.

Method of Measurement: Earth Excavation will be measured in its original position and the volume in cubic yards computed by the method of average end areas.

Basis of Payment: This work will be paid for at the contract unit price per cubic yard for EARTH EXCAVATION.

20400800 FURNISHED EXCAVATION

Effective: January 1, 2008

Description: This work shall consist of excavating suitable materials obtained from locations approved by the Engineer and transporting the materials to various locations throughout the limits of the project.

General: The work shall be performed according to Section 204 of the "Standard Specifications" except as follows:

This work shall also comply with the "Illinois State Agency Historic Resources Preservation Act" (Public Act 86-707, effective January 1, 1990). Under this Act:

1. *The Contractor shall complete an Environmental Survey Request Form for Borrow/Waste/Use Areas (BDE form 2289 1/96 included herein), along with all required attachments, and submit them to the Engineer at the earliest possible date.*
2. *The Engineer shall submit the Environmental Survey Request to IDOT for review and approval. Any and all costs incurred, associated with said review and approval will be borne by the Contractor.*
3. *The Contractor shall not begin work on any Borrow/Use areas until the Environmental Survey Request has been approved.*

This pay item has been included:

- as a contingency quantity to establish a unit price.*
- based on the requirement for fill as shown in the quantity schedule on the plans.*

Method of Measurement: Furnished Excavation will be measured for payment in cubic yards according to Article 204.07 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per cubic yard for FURNISHED EXCAVATION.

20700300 POROUS GRANULAR EMBANKMENT, SPECIAL

Effective: January 1, 2007

Description: This work shall consist of furnishing and placing porous granular embankment.

Materials: The aggregate shall be according to Article 1004.05 of the "Standard Specifications" except as follows:

Only Crushed Stone, Crushed Blast Furnace Slag, or Crushed Concrete meeting the requirements in the table will be permitted.

Sieve Size	Percent Passing
6"*	97 +/- 3
4"	90+/- 10
2"	45 +/- 25
#200	5 +/- 5

** For undercut less than 6", sieve size may be 4".*

Steel slag and other expansive materials will not be permitted.

Equipment: A vibratory roller according to Article 1101.01(g) of the "Standard Specifications" shall be used to roll each lift of material.

General: The work shall be performed according to Section 207 of the "Standard Specifications" and the following:

A vibratory roller shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

Porous Granular Embankment, Special shall be used in all widening and pavement reconstruction areas as shown on the plans. Undercut and PGE placement in addition to the plan thickness will be done as field conditions warrant. No adjustment in unit price will be allowed for an increase or decrease in quantities from the estimated quantities shown in the plans.

Method of Measurement: Porous Granular Embankment, Special will be measured for payment in tons according to Article 311.08(b) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per cubic yard for POROUS GRANULAR EMBANKMENT, SPECIAL.

20800150 TRENCH BACKFILL

Effective: January 1, 2007

Description: This work shall consist of furnishing and placing aggregate backfill in all trenches made in the subgrade of the proposed improvement, and all trenches where the inner edge of the trench is within 2 feet of the proposed edge of pavement, curb, gutter, curb and gutter stabilized shoulder, or sidewalk.

Materials: The aggregate shall be according to Article 208.02 of the "Standard Specifications", except that it may be a local material meeting the approval of the Engineer.

General: The work shall be performed according to Section 208 of the "Standard Specifications".

Method of Measurement: Trench Backfill shall be furnished for backfilling to the full width of the trench. It will be measured in cubic yards in place, except that the quantity for payment shall be limited to the following maximum width:

The maximum pay width for backfilling storm sewer and culvert trenches shall be the outside diameter of the pipe plus 18" for trench depths up to 3 feet, and the outside diameter of the pipe plus 36" for trench depths over 3 feet.

Basis of Payment: This work will be paid for at the contract unit price per cubic yard for TRENCH BACKFILL.

21101615 TOPSOIL FURNISH AND PLACE, 4"

Effective: January 1, 2007

Description: This work shall consist of furnishing, excavating, transporting and placing topsoil.

Materials: The topsoil shall be furnished from outside the right-of-way and shall be according to Article 1081.05(a) of the "Standard Specifications".

General: The work shall be performed according to Section 211 of the "Standard Specifications" and the following:

The work shall also comply with the "Illinois State Agency Historic Resources Preservation Act" (Public Act 86-707, effective January 1, 1990). Under this Act:

- 1. The Contractor shall complete an Environmental Survey Request Form for Borrow/Waste/Use Areas (BDE form 2289 1/96 included herein), along with all required attachments, and submit them to the Engineer at the earliest possible date.*
- 2. The Engineer shall submit the Environmental Survey Request to the Illinois Department of Transportation for review and approval. Any costs incurred associated with said review and approval will be borne by the Contractor.*
- 3. The Contractor shall not begin work on any Borrow/Use areas until the Environmental Survey Request has been approved.*

The Contractor shall collect one representative soil sample from the proposed growing surface which shall be analyzed by an agricultural laboratory approved by the Engineer. The Contractor shall submit the proposed laboratory name and address to the Engineer at the pre-construction conference. The soils analysis shall include (but is not limited to) the recommended application rates of nitrogen and potassium fertilizer nutrients.

Plan quantities reflect a 4" thick topsoil placement in all disturbed areas.

Method of Measurement: Topsoil Furnish and Place will be measured for payment in square yards according to Article 211.07 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per square yard for TOPSOIL FURNISH AND PLACE, 4". *The cost of the soil analysis will not be paid for separately, but will be included in the cost of TOPSOIL FURNISH AND PLACE, 4".*

21301052 EXPLORATION TRENCH 52" DEPTH

Effective: January 1, 2007

Description: This work shall consist of constructing a trench for the purpose of locating existing tile lines, farm underdrains, utilities, or other underground appurtenances within the construction limits of the proposed improvement.

General: The work shall be performed according to Section 213 of the "Standard Specifications". Exploration trench(s) shall be constructed at location(s) as directed by the Engineer.

The trench shall be deep enough to expose the underground line, and the width of the trench shall be sufficient to allow proper investigation to determine if the tile line needs to be replaced.

Method of Measurement: *An estimated length of exploration trench is included in the summary of quantities to establish a unit price only. The exploration trench will be measured for payment in feet of actual trench constructed.*

Basis of Payment: This work will be paid for at the contract unit price per foot for EXPLORATION TRENCH 52" DEPTH. Payment will be based on the actual length of trench explored without a change in unit price because of adjustment in plan quantities, and no extra compensation will be allowed for any delays, inconveniences or damage sustained by the Contractor in performing the work.

25000210 SEEDING, CLASS 2A

Effective: January 1, 2007
Revised: July 9, 2007

Description: This work shall consist of preparing the seed bed and placing the seed required in seeding operations in the areas shown on the plans.

Materials: The seed mixture shall be according to Article 250.07 of the "Standard Specifications". The seeds shall be according to Article 1081.04 of the "Standard Specifications".

General: The work shall be performed according to Section 250 of the "Standard Specifications", and the following:

Permanent seeding operations shall be permitted only between March 15th and May 31st and between August 1st and November 15th.

Seeding will not be allowed during the month of June or July. If seeding is necessary after October 31, the mixture used shall be 50% more than the Class 2A requirements as listed in Article 250.07 of the "Standard Specifications". No additional compensation for the extra mixture will be allowed.

Method of Measurement: Seeding, Class 2A will be measured for payment in acres of the surface area seeded.

Basis of Payment: This work will be paid for at the contract unit price per acre for SEEDING, CLASS 2A.

25100800 EROSION CONTROL MAT

Effective: January 1, 2008

Description: This work shall consist of furnishing, placing and removing erosion control mat in ditch bottoms along with a flocculation powder application as a temporary erosion control measure before final stabilization with erosion control blanket and seeding.

Materials: The erosion control mat shall be limited to jute fabric according to the following:

The erosion control mat shall be a woven fabric of a uniform open weave of single jute yarn. The jute yarn shall be of loosely twisted construction with an average twist of not less than 1½ turns per 1". The average size of the warp and weft yarns shall be approximately the same. The woven fabric shall be supplied in rolled strips with a certificate of compliance certifying that the jute fabric erosion mat conforms to the following:

- *That the erosion control mat is a minimum 48" wide with a tolerance of minus 1".*
- *That the erosion control mat has 78 warp ends, +/- 1 for each 48" of width.*
- *That the erosion control mat has 45 weft yarns, +/- 2, per linear yard of length.*
- *That the erosion control mat weighs 92 pounds per 100 square yards +/- 10 percent, measured under average atmospheric conditions.*
- *That the erosion control mat is non-toxic to vegetation.*

General: The work shall be performed according to Article 251.04 of the "Standard Specifications" and the manufacturer's recommendations.

Method of Measurement: This work will be measured for payment per square yard of material placed. *Each installation of the erosion control mat shall be measured for payment. The flocculation powder will be measured separately according to the special provision for FLOCCULATION POWDER contained herein.*

Basis of Payment: This work will be paid for at the contract unit price per square yard for EROSION CONTROL MAT. *The unit price shall include all labor, equipment and materials necessary for installation, removal and disposal of the erosion control mat. The flocculation powder will be paid for separately according to the special provision for FLOCCULATION POWDER contained herein.*

28000400 PERIMETER EROSION BARRIER

Effective: January 1, 2007

Revised: June 19, 2008

Description: This work shall consist of constructing, removing and disposing of perimeter erosion barrier as part of the project's temporary erosion control system.

General: The work shall be performed according to Section 280 of the "Standard Specifications" and the following:

The perimeter erosion barrier shall be limited to temporary silt filter fence meeting the requirements of AASHTO Standard M 288-00. This specification is applicable to the use of a geotextile as a vertical, permeable interceptor designed to remove suspended soil from overland water flow. The function of a temporary silt fence is to filter and allow settlement of soil particles from sediment-laden water. The purpose is to prevent the eroded soil from being transported off the construction site by water runoff.

All removed materials shall be disposed of outside the right-of-way according to Article 202.03 of the "Standard Specifications".

Materials:

Geotextile Requirements: The geotextile used for the temporary silt fence shall be classified as supported (with a wire or polymeric mesh backing) or unsupported (no backing). The temporary silt fence geotextile shall meet the requirements of Table 6 included below. All numeric values except Apparent Opening Size (AOS) represent Minimum Average Roll Values (MARV as defined in ASTM D4439). The values for AOS are the Maximum Average Roll Values.

Table 6 – Temporary Silt Fence Requirements

Requirements	Test Methods	Wire Backed Supported Silt Fence ^a	Unsupported Silt Fence	
			Geotextile Elongation $\geq 50\%$ ^b	Geotextile Elongation $< 50\%$ ^b
Maximum Post Spacing		4 feet	4 feet	6 feet
Grab Strength	ASTM D 4632			
Machine direction		90 lbs	124 lbs	124 lbs
X-Machine direction		90 lbs	100 lbs	100lbs
Permittivity ^c	ASTM D 4491	0.05 sec ⁻¹	0.05 sec ⁻¹	0.05 sec ⁻¹
Apparent Opening Size	ASTM D 4751	0.024in maximum average roll value		

Ultraviolet stability (retained strength)	ASTM D 4355	70% after 500 hours of exposure
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Notes:

- a) Silt fence support shall consist of 14-gauge steel wire with a mesh backing of 150mm x 150mm (6in x 6in) or prefabricated polymeric mesh of equivalent strength.
- b) As measured in accordance with ASTM D 4632.
- c) These default filtration property values are based on empirical evidence with a variety of sediments. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests should be performed by the agency to confirm suitability of these requirements.

Support Posts: The support posts may be composed of wood, steel or a synthetic material. The posts shall be a minimum length of 3 feet plus the buried depth. They shall have sufficient strength to resist damage during installation and to support the applied loads due to material build up behind the silt fence.

- 1) Hardwood posts shall be a minimum of 1.2" x 1.2"
- 2) No. 2 southern pine posts shall be a minimum of 2.6" x 2.6"
- 3) Steel posts may be U, T, L, or C shape, weighing 1.3lbs per foot.

Fence Support: The wire or polymer support fence shall be at least 30" high and strong enough to support the applied loads. Polymer support fences shall meet the same ultraviolet degradation requirements as the geotextile material (see table 6).

The wire support fence shall:

- Be a minimum of 14-gauge.
- Have a minimum of 6 horizontal wires.
- The maximum vertical wire spacing shall be 6".

Construction:

The silt fence shall be installed with a minimum height above ground of 30". The geotextile at the bottom of the fence shall be buried, in a "J" configuration to a minimum depth of 6", in a trench so that no flow can pass under the silt fence. The trench shall be backfilled and the soil compacted over the geotextile.

The geotextile shall be spliced together with a sewn seam or two sections of fence may be overlapped instead. The sewn seam shall be positioned only at a support post.

The Contractor must demonstrate to the satisfaction of the Engineer that the geotextile can withstand the anticipated sediment loading.

The posts shall be placed at spacing as shown on the project plans. Posts shall be driven or placed a minimum of 20" into the ground. The depth shall be increased to 24" if the fence is placed on a slope of 3:1 or greater. If the 20" depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

The support fence shall be securely fastened to the upslope side of the fence post. The support fence shall extend from the ground surface to the top of the geotextile.

When un-supported fence is used, the geotextile shall be securely fastened to the fence posts.

Field monitoring shall be performed to verify that the placement of an armor system does not damage the geotextile.

Silt fences should be continuous and transverse to the flow. The silt fence should follow the contours of the site as closely as possible. The fence shall also be placed such that run off cannot flow around the end of the fence.

The silt fence should be located so that the drainage area is limited to an area equivalent to 1000 square feet for each 10 feet of fence length. Caution should be used where the site slope is greater than 1:1, and/or water flow rates exceed 0.1 cubic feet per second for each 10 feet of fence length.

Maintenance:

The Contractor shall inspect all temporary silt fences immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall immediately correct any deficiencies.

The Contractor shall also make a daily review of the location of silt fences in areas where construction activities have altered the natural contour and drainage runoff to ensure that the silt fences area properly located for effectiveness. Where deficiencies exist as determined by the engineer, additional silt fence shall be installed as directed by the Engineer.

Damaged or otherwise ineffective silt fences shall be repaired or replaced promptly.

Sediment deposits shall either be removed when the deposit reaches half the height of the fence or a second silt fence shall be installed as directed by the Engineer.

The silt fence shall remain in place until the Engineer directs it to be removed. Upon removal, the contractor shall remove and dispose of any excess sediment accumulations, dress the area to give it a pleasing appearance, and cover with vegetation all bare areas in accordance with the contract requirements.

Removed silt fence may be used at other locations provided the geotextile and other material requirements continue to be met to the satisfaction of the Engineer.

Method of Measurement: This work will be measured for payment in place in feet.

Basis of Payment: This work will be paid for at the contract unit price per foot for PERIMETER EROSION BARRIER. The unit price shall include all work and materials necessary to properly install the barrier and to remove and dispose of the used materials at the completion of the project. *Maintenance requirements shall be included and paid for under the special provision for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS.*

28200200 FILTER FABRIC

Effective: January 1, 2007

Description: This work shall consist of furnishing and installing geotechnical filter fabric in conjunction with gabions on prepared subgrade or embankment foundations. The work shall also include all work necessary to prepare the subgrade beneath the fabric.

Materials: The material shall be according to Article 1080.03 of the "Standard Specifications" and the following:

The filter fabric material shall consist of non-woven filaments formed from plastic yarn of a long – chain synthetic polymer composed of at least 85 percent by weight of polyolefins, or polyesters, and shall contain stabilizers and /or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultra violet light and heat exposure. After forming, the fabric shall be processed so that the filaments retain their relative positions with respect to each other. The fabric shall be free of defects or flaws which significantly affect its physical and/or filtering properties.

The texture of the fabric shall be such that the gabion and foundation will remain in an equilibrium state and not slip or slide. The filter fabric shall be rot proof, mildew proof, insect resistant and have a high dimensional stability when wet, good soil filtration characteristics and high resistance to tear propagation in all directions, and meet the following minimum conditions and ASTM tests:

<i>Weight of Fabric (oz/sq yd) ASTM D 3776 (Mod.)</i>	<i>6.0</i>
<i>Burst strength (psi) ASTM D 3786 (Note1)</i>	<i>280 MARV</i>
<i>Trapezoidal Tear Strength (lbs) ASTM D 1117 (Note 2)</i>	<i>60 MARV</i>
<i>Grab tensile Strength (lbs) ASTM D 4632 (Note 2)</i>	<i>160 MARV</i>
<i>Grab tensile Elongation (%) ASTM D 4632 (Note 2)</i>	<i>50 MARV</i>
<i>Apparent Opening size ASTM D 4751 (US Sieve)</i>	<i>70 MARV</i>
<i>Permeability (cm/sec) ASTM D 4491</i>	<i>0.24 MARV</i>

Note 1: Manufacturer's certificate of fabric to meet requirements.

Note 2: Test sample shall be tested wet.

General: The bottom and back of the gabions (and such other areas as may be indicated on the plans) shall be lined with filter fabric. This work shall be constructed according to Section 282 of the "Standard Specifications"

Method of Measurement: The filter fabric will be measured in place and the area computed in square yards. The buried edges of the fabric will not be measured for payment and the overlap joints and seams will be measured as a single layer of material.

Basis of Payment: This work shall be paid for at the contract unit price per square yard of FILTER FABRIC.

DIVISION 300. SUBGRADES, SUBBASES, AND BASE COURSES

SECTION 301 SUBGRADE PREPARATION

Effective: January 1, 2007
Revised: March 14, 2008

Description: This work shall consist of removing, transporting and disposing of unsuitable material; and backfilling the excavated area with a porous granular embankment material when preparing the subgrade beneath the 12" Aggregate Subgrade shown on the plans.

General: The work shall be according to Section 301 of the "Standard Specifications" and the following:

Soil tests taken for this project indicate that at various locations, soft unstable soils of varying depths exist which may require their removal and replacement with porous granular embankment prior to the placing of bituminous base course or aggregate material.

A soils report is available online with the project plans and contract specifications and it is available for inspection and review at LCDOT.

At all locations throughout the project limits an attempt shall be made to prepare the subgrade in accordance with Article 301.03 of the "Standard Specifications". If the Engineer then determines that stabilization cannot be obtained, undercutting to the maximum depth indicated and replacement with porous granular embankment, special and geotechnical fabric shall be accomplished.

It is anticipated that removal and replacement will definitely be required within the following limits, with the maximum depth of undercut below the proposed top of subgrade, and the replacement material, indicated for each location:

Station to Station		Max Undercut Depth	Replacement Material
142+50	145+50	12 inches	PGE, Special
151+50	158+25	12 inches	PGE, Special
158+25	161+50	6 inches	PGE, Special
162+10 LT	162+90 LT	12 inches	PGE, Special
161+50	164+50	6 inches	PGE, Special
170+50	174+00	6 inches	PGE, Special

The plans, profiles and cross-sections show the approximate limits of removal and replacement with porous granular embankment for the above locations. Quantities for EARTH EXCAVATION and POROUS GRANULAR EMBANKMENT, SPECIAL have been computed to include these locations.

At all locations the actual extent of removal and replacement shall be determined by the Engineer in the field at the time of construction. Undercuts deeper than the maximums

indicated above shall be justified based upon cone penetrometer testing. In all cases, the undercut shall extend to one foot outside the edges of the bituminous pavement (or the backs of the curbs in curb and gutter sections) and come up at a 1:1 slope to the existing ground surface as shown on LCDOT Standard LC2000.

A proof rolling procedure acceptable to the Engineer shall be followed in order to verify the stability of the subgrade prior to the placement of earth embankment or porous granular embankment. Verification of subgrade stability shall be done through the use of a cone penetrometer in conjunction with the Illinois Department of Transportation's Subgrade Stability Manual.

35100500 AGGREGATE BASE COURSE, TYPE A 6"

Effective: April 1, 2007

Description: This work shall consist of furnishing and placing aggregate base course on a prepared subgrade or subbase.

Materials: The aggregate shall be according to Article 1004.04 of the "Standard Specifications" except that:

The material shall be limited to crushed gravel, crushed stone or crushed concrete. The plasticity index requirements and the requirements for adding water at the central mixing plant will be waived.

General: The work shall be performed according to Section 351 of the "Standard Specifications".

Method of Measurement: Aggregate Base Course will be measured for payment in square yards according to Article 311.08(b) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per square yard for AGGREGATE BASE COURSE, TYPE A of the depth specified.

**DIVISION 400. SURFACE COURSES, PAVEMENTS,
REHABILITATION, AND SHOULDERS**

40201000 AGGREGATE FOR TEMPORARY ACCESS

Effective: January 1, 2007
Revised: April 1, 2008

Description: This work shall consist of furnishing and constructing temporary aggregate driveways and roads to maintain ingress and egress to all abutting properties during construction operations.

Materials: The aggregate shall be according to Article 1004.04 of the "Standard Specifications" except that:

The material shall be limited to the following:

- a) *crushed gravel, crushed stone or crushed concrete. The plasticity index requirements and the requirements for adding water at the central mixing plant will be waived.*
- b) *Reclaimed asphalt pavement (RAP) meeting the requirements of Section 1031 of the "Standard Specifications" and the following:*
 - *100% passing the 3 inch sieve.*
 - *Well graded down through fines.*
 - *The RAP shall not contain steel slag or other expansive material.*

General: The work shall be performed according to Article 402.10 of the "Standard Specifications" and the following:

Temporary accesses shall be constructed to the dimensions determined by the Engineer.

After the temporary aggregate accesses have served their purpose, the aggregate shall be removed, and, with the approval of the Engineer, suitable aggregate may be utilized for another purpose, such as embankment construction or driveway apron construction.

Aggregate not reused, shall be removed and disposed of outside the right-of-way according to Article 202.03 of the "Standard Specifications".

Method of Measurement: Aggregate for Temporary Access will be measured for payment in tons according to Article 311.08(b) of the "Standard Specifications". *Measurement will be made for the initial use of the aggregate only, regardless of the number of times the aggregate is moved and/or reused*

Basis of Payment: This work will be paid for at the contract unit price per ton for AGGREGATE FOR TEMPORARY ACCESS. The unit price shall be payment in full for furnishing, transporting, placing, maintaining and removing the aggregate.

ARTICLE 406.11 SURFACE TESTS

Effective: April 1, 2008

Revised: May 8, 2008

The completed surface course will be tested for smoothness in the wheel paths with a 16 ft straightedge according to Article 406.11 of the "Standard Specifications" and the following:

The Contractor shall furnish the appropriate personnel and equipment required to perform the surface course testing according to Article 406.11 of the "Standard Specifications", and to the satisfaction of the Engineer. Traffic control and protection for the testing shall be included. The testing, including all required personnel and equipment, will be considered incidental to the contract and provided at no additional cost to the Department.

At the Engineer's discretion the surface testing may include sections of the highway repaired with partial depth or full depth pavement patching and/or areas of pavement replacement.

40600100 BITUMINOUS MATERIALS (PRIME COAT)

Effective: January 1, 2007

Description: This work shall consist of furnishing and placing a prime coat on a prepared base or hot-mix asphalt layer.

Materials: The bituminous materials shall be according to Section 1032 of the "Standard Specifications" except that the material shall be limited as follows:

Emulsified asphalt shall only be used between the dates of May 15th and September 1st. On or before May 15th, and on or after September 1st, RC-70 asphalt shall be used in lieu of emulsified asphalt.

On days between May 15th and September 1st, when the air temperature is in question, the exact type of priming asphalt shall be determined by the Engineer.

General: The work shall be performed according to Article 406.05(b) of the "Standard Specifications" and the following:

Prime Coat material shall be SS-1 on hot-mix asphalt surfaces and MC30 on aggregate surfaces.

The Contractor shall erect, to the Engineer's satisfaction, 36 inch (minimum size) FRESH OIL AHEAD, signs prior to applying the prime coat.

Shields, covers or other suitable equipment shall be provided by the Contractor to protect the motoring public, adjoining pavement, curbs, and/or structures during the application of the prime coat.

Method of Measurement: The Contractor will be required to present a weight ticket of the truckload prior to applying the prime coat. After application the truck shall then be weighed again in order to determine the net weight of prime coat that has been placed. Both tickets shall be stamped by a certified weigh master. The quantity in gallons shall be computed according to Article 1032.02 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per gallon for BITUMINOUS MATERIALS (PRIME COAT).

42400800 DETECTABLE WARNINGS

Effective: February 13, 2007
Revised: June 19, 2008

Description: This work shall consist of furnishing and installing detectable warnings in accessibility ramps.

Materials: *The detectable warnings shall be stainless steel panels of the sizes shown on the plans and shall be supplied from one of the following manufacturers, or an approved equal:*

1) *MetaDome,
2136 E. Dayton Street
Madison, WI 53704
Phone # 608-249-8644
<http://www.metadome.com/>*

*Product Name: MetaPanel
Required coating system:
Meta-Coat II, Federal Yellow*

2) *Advantage Tactile Systems, Inc.
241 Main Street
Suite 100
Buffalo, NY 14203
Phone # 1-800-679-4022
Fax # 1-800-679-4023

<http://www.advantagetactile.com/>*

*Product Name: Advantage Tactile System
Required coating system:
Diamond Tek, Federal Yellow

Supplier: RKD Construction
11633 W. Grand Avenue
Melrose Park, IL 60164*

General: Detectable warnings shall be according to Article 424.09 of the "Standard Specifications".

Method of Measurement: This work will be measured for payment in place installed, in square feet. *The concrete area under the detectable warnings will be measured for payment as portland cement concrete sidewalk of the thickness specified, with no deductions made for the detectable warnings panels located within the ramp.*

Basis of Payment: This work will be paid for at the contract unit price per square foot of DETECTABLE WARNINGS.

44000155 HOT-MIX ASPHALT SURFACE REMOVAL 1-1/2"

Effective: January 1, 2007

Description: This work shall consist of removing the existing hot-mix asphalt (HMA) surface to a depth specified on the plans with a self propelled milling machine.

General: The work shall be performed according to Section 440 of the "Standard Specifications" and the following:

If the milling machine cuts too deep or tears out areas of the existing pavement which were to be saved, the holes shall be filled with leveling binder at the Contractor's expense.

Temporary ramps at butt joints shall be provided according to Article 406.08 of the "Standard Specifications". Temporary ramps will not be paid for separately but shall be included in the contract unit bid price for the hot-mix asphalt surface removal, of the depth specified, scheduled for the ramp location.

*Penalty – Failure by the Contractor to provide a temporary bituminous ramp shall be grounds for assessment of a penalty of **\$100.00** per day, per ramp location, for each calendar day thereafter that such facility remains incomplete, after written notification from the Engineer. Such penalty shall be deducted from monies due or to become due to the Contractor under the Contract.*

Method of Measurement: Hot-Mix Asphalt Surface Removal will be measured for payment in place and the area computed in square yards for each specified increment thickness of material removed.

Basis of Payment: This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL of the depth specified.

45100100 CRACK ROUTING (PAVEMENT)

Effective: May 1, 2007

Description: This work shall consist of routing and cleaning transverse and longitudinal reflected cracks in existing hot-mix asphalt (HMA) pavement.

General: The work shall be performed according to Section 451 of the "Standard Specifications" and the following:

Primary transverse and longitudinal working cracks shall be routed, cleaned and sealed. Any adjacent secondary cracks shall be only cleaned and sealed as directed by the Engineer.

Method of Measurement: Crack routing will be measured for payment in feet along the routed cracks.

Basis of Payment: CRACK ROUTING (PAVEMENT) will be paid for at the contract unit price per foot.

45100200 CRACK FILLING

Effective: May 1, 2007

Description: This work shall consist of sealing transverse and longitudinal reflected cracks in existing hot-mix asphalt (HMA) pavement.

Materials: *Hot-poured elastic sealer shall be "Hi-Spec Polymeric Joint Sealing Compound" as manufactured by W.R. Meadows, Inc. or approved equal. This material must comply with the requirements of ASTM D6690, Type II and shall not contain any reclaimed rubber filler materials. Sampling and testing will be in accordance with the provisions of Articles 106.03 and 106.04 of the "Standard Specifications".*

General: The work shall be performed according to Section 451 of the "Standard Specifications", the manufacturer's recommendations and the following:

Temperature control:

The sealant manufacturer's instructions on application temperature shall be observed. The Contractor's sealant unit shall have available at all times an operating ASTM 11-F thermometer with an intact mercury column or a certified, calibrated digital pyrometer, electronic thermometer or equivalent direct reading temperature measurement device capable of reading within plus or minus 5 degrees Fahrenheit from 200 degrees Fahrenheit to 600 degrees Fahrenheit.

A log of product tank temperatures shall be recorded at one (1) hour plus or minus ten (10) minute intervals and kept available for inspection by the Engineer. Product tank temperatures shall be taken with one of the certified calibrated devices described above. Temperature gage readings are not acceptable

Material that has been overheated in excess of 30 degree Fahrenheit above the manufacturer's recommended maximum temperature for one (1) hour or 60 degrees for ½ hour shall be wasted at the Contractor's expense. Material shall not be placed if the temperature is below the manufacturer's recommended minimum application temperature.

The Contractor's procedures for loading material into the product tank shall not depress the sealant temperature at the wand tip below the manufacturer's recommended minimum application temperature.

Debris generated by pavement routing shall not be used to dust the uncured sealant. The pavement is to be swept clean before applying the sealant and opening to traffic.

The Contractor shall pay for any damage to the traveling public resulting from sealant application or sealant pullout. Sealant material picked up or pulled out shall be replaced at the Contractor's expense.

Method of Measurement: Filling of cracks will be measured for payment in pounds of sealant used. The quantity of sealant used will be determined by counting the containers of sealant used, multiplied by the indicated pounds of each container.

Basis of Payment: CRACK FILLING will be paid for at the contract unit price per pound.

DIVISION 500. STRUCTURES

54247150 GRATING FOR CONCRETE FLARED END SECTION 30"

Effective: January 1, 2007

Description: This work shall consist of furnishing and installing grates on precast concrete flared end sections.

General: The work shall be performed according to Article 542.07 of the "Standard Specifications" and the following:

Gratings shall be fabricated and installed as shown on the plans.

Basis of Payment: This work will be paid for at the contract unit price per each for GRATING FOR CONCRETE FLARED END SECTION 30".

55039700 STORM SEWERS TO BE CLEANED

Description: This work shall consist of cleaning existing storm sewer at the locations shown on the plans or as directed and to the satisfaction of the Engineer.

General: This work shall conform to the applicable portions of Section 550 of the Standard Specifications and shall consist of cleaning existing storm sewer at the locations shown on the plans or as directed and to the satisfaction of the Engineer.

Basis of Payment: This work will be paid for at the contract unit price per foot for STORM SEWERS TO BE CLEANED regardless of the diameter of the storm sewer.

56400300 FIRE HYDRANTS TO BE ADJUSTED

This item consists of vertically adjusting of fire hydrants and auxiliary valves where called for on the plans or as directed by the Engineer. The fire hydrants with the auxiliary valves shall be adjusted vertically to meet the proposed final grade.

Any fire hydrant damaged by the Contractor shall be repaired at his/her own expense.

The work shall be performed according to Section 564 of the Standard Specifications, and in a manner approved in writing by the Engineer of the municipality or water district having jurisdiction over the fire hydrant.

Basis of Payment: This work shall be paid for at the contract unit price each for FIRE HYDRANTS TO BE ADJUSTED, which price shall include all labor, materials, and equipment to complete the work in accordance with the plans and the Special Provisions.

DIVISION 600. INCIDENTAL CONSTRUCTION

6020XXXX CATCH BASINS, TYPE A

Effective: January 1, 2007

Description: This work shall consist of constructing catch basins with frames and grates or frames and lids.

Materials: The materials shall be according to Article 602.02 of the "Standard Specifications".

General: The work shall be performed according to Section 602 of the "Standard Specifications", IDOT Standard Drawing 602001 and the following:

The half trap option as shown on Standard 602001 shall not be required. A 24" sump shall be provided.

Basis of Payment: This work will be paid for at the contract unit price per each for CATCH BASINS, TYPE A of the diameter specified, and with the frame and grate or frame and lid specified.

60260050 SANITARY MANHOLES TO BE RECONSTRUCTED

This work shall be in accordance with Section 602 of the Standard Specifications in so far as applicable and the following provisions:

This item consists of the reconstruction of sanitary manhole frames and lids to proposed grade.

All manholes shall be reconstructed to a grade where more than 8" of structure will be added, removed, or rebuilt to bring the specified casting to the finished grade of the proposed embankment or pavement.

This work will be paid for at the contract unit price each for SANITARY MANHOLES TO BE RECONSTRUCTED, which price shall include resetting the fame with lid, excavation, and backfill.

60300205 FRAMES AND GRATES TO BE ADJUSTED (SPECIAL)

Effective: January 1, 2007

Description: This work shall consist of adjusting the frame, with grate/lid, of existing drainage and utility structures.

General: The work shall be performed according to Section 603 of the "Standard Specifications", except that:

The frames shall not protrude more than 1½" above the pavement surface at any time during the milling/resurfacing process. This will require more than one adjustment in areas where the milling exceeds 1½".

As an option, the Contractor may remove the frame and grate/lid and place a plate over the structure until the binder course is placed. The plate shall then be removed and the frame and grate/lid installed at the final grade prior to the placement of the surface course.

Method of Measurement: *This work will be measured per each structure with a frame and grate to be adjusted regardless of how many times the frame and grate needs to be adjusted during the project.*

Basis of Payment: This work will be paid for at the contract unit price per each for FRAMES AND GRATES TO BE ADJUSTED (SPECIAL). *No additional compensation will be allowed for multiple adjustments to the same structure.*

SECTION 604 FRAMES, GRATES, AND MEDIAN INLETS

Effective: January 1, 2007
Revised: February 22, 2008

Description: This work shall be according to Section 604 of the "Standard Specifications" and the following:

This work shall consist of providing an environmental notice prominently cast into the above grade portion of the frame or grate/lid for all new or proposed drainage structures.

General: *The environmental notice shall be "DUMP NO WASTE, DRAINS TO WATERWAYS" or similar wording. The frames, lids and grates shall be according to Section 604 of the "Standard Specifications". The notice shall be cast into the Type 1 lids (open only), Type 8 grates, Type 11 grates, and Type 24 grates.*

Basis of Payment: This work will not be paid for separately, but shall be incidental to the drainage structure with frame and grate/lid specified.

60605000 COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24

Effective: January 1, 2007

Description: This work shall consist of constructing type B-6.24 curb and gutter.

Materials: The materials shall be according to Article 606.02 of the "Standard Specifications".

General: The work shall be performed according to Section 606 of the "Standard Specifications" and IDOT Standard Drawing 606001 and the following:

One inch expansion joints shall be constructed at maximum intervals of 150 feet.

The end treatments as specified in the plans shall conform to the applicable special details. Where no end treatment is specified, curb and gutter endings shall be transitioned to a flat section over the final 6 feet.

Method of Measurement: Combination Concrete Curb and Gutter, Type B-6.24 will be measured for payment in feet. The measurement will be made along the face of curb according to Article 606.14 of the "Standard Specifications". *Transitions between Type B-6.24 and Type M-2.24 Curb and Gutter or Type B-6.12 Curb and Gutter will be paid for at the contract unit price per foot for as Combination Concrete Curb and Gutter, Type B-6.24. The transition length will be 10 feet unless otherwise specified in the plans.*

Basis of Payment: This work will be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24.

611XXXXX STORM SEWERS, SPECIAL

Effective: January 1, 2007

Description: This work shall consist of constructing storm sewer in areas where the minimum separation from water main cannot be maintained.

Materials: *The storm sewer materials shall be limited to the following:*

- a) *Cement mortar lined ductile cast iron pipe, thickness class 52 or greater, with push-on joints.*
- b) *Reinforced concrete pipe, steel cylinder type, with rubber and steel joints.*
- c) *Reinforced concrete pressure pipe with rubber and steel joints.*

General: The work shall be performed according to Section 550 of the "Standard Specifications" and the Illinois Environmental Protection Agency, Division of Public Water Supplies "Technical Policy Statements" concerning Illinois Pollution Control Board Rules and Regulations, Chapter 6, Rule 212, E through F.

Method of Measurement: Storm Sewer, Special will be measured for payment in place in feet. The measurement will be made according to Article 550.09 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per foot for STORM SEWERS, SPECIAL of the diameter specified.

66410300 CHAIN LINK FENCE REMOVAL

This work consists of removing existing fence, as shown on the plan sheets and Schedule of Quantities.

The contractor shall remove and dispose of all fence materials, including concrete used to anchor fence posts. All fencing material removed shall become the property of the Contractor and shall be disposed of outside the right-of-way. All earth excavation/disturbed earth areas associated with the fence removal shall be backfilled with topsoil and reseeded as shown on the plans or as directed by the engineer.

CHAIN LINK FENCE REMOVAL will be paid for at the contract unit price per foot of fence removed.

66503400 BARBED WIRE FENCE REMOVAL

This work consists of removing existing fence, as shown on the plan sheets and Schedule of Quantities.

The contractor shall remove and dispose of all fence materials, including concrete used to anchor fence posts. All fencing material removed shall become the property of the Contractor and shall be disposed of outside the right-of-way. All earth excavation/disturbed earth areas associated with the fence removal shall be backfilled with topsoil and reseeded as shown on the plans or as directed by the engineer.

BARBED WIRE FENCE REMOVAL will be paid for at the contract unit price per foot of fence removed.

**DIVISION 700. WORK ZONE TRAFFIC CONTROL AND PROTECTION,
SIGNING, AND PAVEMENT MARKING**

TRAFFIC CONTROL AND PROTECTION (L.C.-T- SECTION 700), EFFECTIVE 03/01/2008

The Traffic Control and Protection shall meet the requirements of Division 700. Work Zone Traffic Control and Protection, Signing and Pavement Marking of the "Standard Specifications" except as follows:

Article 701.01 Description shall be replaced with the following:

701.01 Description. This item of work shall include furnishing, installing, maintaining, replacing, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic during the construction or maintenance of this improvement.

Traffic Control and Protection shall be provided as called for in the plans, these special provisions, applicable Highway Standards, applicable sections of the "Standard Specifications", or as directed by the Engineer.

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions along the roadway through the construction zone. The Contractor shall arrange his/her operations to keep the closing of any lane of the roadway to a minimum.

Traffic control devices include signs and their supports, signals, pavement markings, barricades and their approved weights, channeling devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

Article 701.04 General shall be modified by adding the following section.

The Contractor is required to conduct routine inspections of the work site at a frequency that will allow for the timely replacement of any traffic control device that has become displaced, worn or damaged to the extent that it no longer conforms to the shape, dimensions, color and operational requirements of the MUTCD, the Traffic Control Standards or will no longer present a neat appearance to motorists. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.

The Contractor shall be responsible for the proper location, installation and

arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations, in order to keep lane assignments consistent with barricade placement at all times.

The Contractor shall immediately remove, cover or turn from the view of motorists all traffic control devices which are inconsistent with the detour, lane assignment patterns or conflicting conditions created during the transition from one construction stage to another. When the Contractor elects to cover conflicting or inappropriate signing, the materials used shall totally block out the reflectivity of the sign and shall cover the entire sign. The method used for covering the signing shall meet with the approval of the Engineer.

The Contractor shall coordinate all traffic control work on this project with any adjoining or overlapping projects. The coordination will include any barricade placements necessary to provide a uniform traffic detour pattern. When directed by the Engineer, the Contractor shall remove all traffic control devices that he/she furnished, installed and maintained under the contract. Such devices shall remain the property of the Contractor. All traffic control devices shall remain in place until the Engineer specifically authorizes their relocation or removal.

The Contractor shall ensure that all the traffic control devices he/she installs are operational, functional and effective 24 hours a day, 7 days a week, including holidays.

Article 701.04 General shall be further modified by adding the following sections:

Public Safety and Convenience:

The Contractor shall provide a telephone number for a responsible individual who can be contacted 24 hours a day, 7 days a week, to receive notification of any deficiencies in traffic control and protection. The Contractor shall dispatch men, materials, and equipment to correct any such deficiencies. The Contractor shall respond to any call from LCDOT concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two (2) hours from the time of notification.

Personal vehicles shall not park within the right-of-way except in specific areas designated by the Engineer. All roads shall remain open to traffic. The Contractor may close one lane on two lane roads, because of construction, between the hours of 9:00 AM and 3:00 PM only. The Contractor shall maintain one-way traffic during these restricted hours with the use of signs and flagmen as shown on the Traffic Control Standards. Two lanes of traffic will be

maintained between the hours of 3:00 PM and 9:00 AM and when no construction activities are being carried out.

The restricted lane closure time may be adjusted by the Engineer.

The Contractor shall provide a start and end time and a procedure plan 48 hours prior to the lane(s) to be closed. The Engineer shall notify the Contractor of his decision 24 hours in advance of the proposed lane closure. If the Contractor fails to provide notification or disregards the decision of the Engineer, the Traffic Control Deficiency Charge will be applied as stated in this special provision.

The Contractor shall maintain at least one lane in each direction on roads with four or more lanes. The Contractor shall also maintain entrances and side roads along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences incurred by the Contractor while complying with these requirements shall be considered incidental to the contract, and no additional compensation will be allowed.

On two lane roads, the Contractor will plan his/her work so that there will be no open holes or obstructions in the pavement and so that all barricades will be removed from the pavement during non-work hours.

On highways with four or more lanes, the Contractor will plan his/her work so that there shall be no open holes or obstructions in the pavement being used by the traveling public. Lane closures, if allowed, will be in accordance with the applicable standards, staging details shown in the plans and any other applicable contract documents.

The Contractor shall remove all equipment from the shoulders and medians after work hours.

The Contractor shall not institute any road closures or restrictions except those covered by the plans and specifications of this contract without written approval from the Engineer.

Traffic Control Deficiency Charge:

The primary concern of LCDOT is to maintain a safe travel way for the public and a safe environment for the worker in the construction zone. The Contractor is expected to comply with the "Standard Specifications", contract plans, these special provisions, and directions from the Engineer concerning traffic control and protection. The Contractor shall provide a telephone number for a responsible individual who can be contacted 24 hours a day, 7 days a week, to

receive notification of any deficiencies in the traffic control and protection.

When the Engineer is notified or determines a traffic control deficiency exists, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be ½ (one half) hour to 8 (eight) hours based upon the urgency of the situation and the nature of the deficiency. The Engineer will be the sole judge.

The deficiency may be any lack of repair, maintenance of, or non-compliance with the traffic control plan.

If the Contractor fails to correct the deficiency within the specified time, a traffic control deficiency shall be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with the notification and end with the Engineer's acceptance of the correction. The traffic control deficiency charge shall be for the full amount per day for each day the deficiency existed. The daily monetary deduction per deficiency shall be either \$1,000.00 or 0.05 of one percent of the awarded contract value, whichever is greater.

In addition, if the Contractor fails to respond, the Engineer may correct the deficiency and the cost thereof shall be deducted from the cost of the contract. The charge shall be separate and in addition to the traffic control deficiency deduction.

The Contractor shall not be relieved of any contractual responsibilities by LCDOT's action.

Article 701.14 Signs shall be modified by revising the first paragraph to read as follows:

When the work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement, paved median, other impervious surface, or define a moving or intermittent operation. When approved by the Engineer, a temporary sign stand may be used to support a sign at 5 feet minimum height where posts are impractical. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 feet to avoid obstacles, hazards or to improve sight distance, when approved by the Engineer. "ROAD WORK AHEAD" signs shall also be required on all side streets within the limits of the mainline "ROAD WORK AHEAD" signs."

Construction signs referring to daytime lane closures during working hours shall be removed, covered, or turned away from the view of motorists during non-working hours. Upon request, prior to the beginning of construction operations the Contractor will be provided a sign log of all existing signs within the limits of

the construction zone. The Contractor is responsible for verifying the accuracy of the sign log. The Contractor shall maintain all existing traffic signs throughout the duration of the project.

All provisions of Article 107.25 of the "Standard Specifications" shall apply except the third paragraph shall be revised to read:

The Contractor shall maintain, furnish and replace at his own expense, any traffic sign or post which has been damaged or lost by the Contractor or a third party. The Contractor will not be held liable for third party damage to large freeway guide signs.

Article 701.14 Signs (b) Work Zone Speed Limit Signs shall be revised to read:

- (b) **Work Zone Speed Limit Signs.** The Lake County Division of Transportation's Engineering Department will specify whether a project meets the criteria for a Work Zone Speed Limit. When specified, the work zone speed limit signs shall be installed as shown on the LCDOT Typical Work Zone Speed Limit Installation guideline sheets, at a maximum of 20 feet lateral distance of the locations shown on the plans. Failure to install the required amount of signs at the proper sign spacing shall result in an immediate traffic control deficiency. These signs are required for the proper enforcement of the work zone speed limit.

All permanent "SPEED LIMIT" signs located within the work zone shall be removed or covered. If the speed limit sign is to be covered, it shall be done in a manner that no part of the legend shall be visible in any lighting condition. This work shall be completed by county forces only.

The work zone speed limit signs and the end work zone speed limit signs in advance of and at the end of the lane closure(s) shall be used for the duration of the closure(s).

The work zone speed limits signs within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies within the lane closure(s) will not be required when workers are located behind a concrete barrier wall.

Article 701.14 Signs shall be modified by adding the following section (c),

- (c) When indicated in the traffic control plan or as directed by the Engineer, the Contractor shall furnish, install, maintain, relocate, and remove temporary construction signs and all associated sign supports for various stages of construction. These signs are described as Contractor Furnished Construction Signs within the traffic control plans.

All signs described and listed in the maintenance of traffic plans are considered Contractor Furnished Construction Signs unless otherwise noted. The signs shall be installed in accordance with the traffic control plan and as directed by the Engineer.

Basis of Payment. The cost associated with furnishing, installing, maintaining, relocating, and removing Contractor Furnished Construction Signs with all associated temporary support systems for various stages of construction shall be included in the cost of TRAFFIC CONTROL AND PROTECTION.

All existing signs to be maintained, relocated, and subsequently removed for various stages of construction shall be included in the cost of RELOCATE SIGN PANEL – TYPE 1, RELOCATE SIGN PANEL – TYPE 2, or RELOCATE SIGN PANEL ASSEMBLY – TYPE B.

Article 701.14 Signs shall be modified by adding the following section (d),

- (d) Flagger Signs. The W20-7a Flagger Symbol sign or the W20-7 Flagger Ahead sign may be used in lieu of the Illinois Department of Transportation W20-1101 Flagger sign.

Article 701.15 Traffic Control Devices shall be modified by adding the following paragraphs:

All devices and combination 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 include small, lightweight, channelizing and delineation 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 Test Level 3.

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 this category and it is exempt from NCHRP 350 compliance requirement.

The Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and a FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letters shall state the device meets NCHRP 350 requirements for its respective category and test level, and shall include a detail drawing of the device. These "Letters of Certification" shall be given to the Engineer at the preconstruction conference.

Article 701.15 Traffic Control Devices (b) Type I, II and III Barricades shall be modified by adding the following paragraphs.

Type II nonmetallic barricades shall be used at all locations that call for Type II barricades. The reflective area of the top rail shall be at least 288 square inches.

Any drop off greater than 3 inches, but less than 6 inches, located within 8 feet of the pavement edge shall be protected by Type II barricades equipped with mono-directional steady burn lights. The barricades shall be placed at a spacing of 100 feet center to center. For any drop off within 8 feet of the pavement edge that exceeds 6 inches, the Type II barricades equipped with mono-directional steady burn lights shall be placed at a spacing of 50 feet center to center. Barricades that must be placed in excavated areas shall have leg extensions installed so that the top of the barricade is in compliance with the height requirements of IDOT Standard 701901.

All Type II barricades shall be equipped with a steady burn light when used during hours of darkness unless otherwise stated herein.

Extended Leg Type II Barricades. Extended leg type II barricades shall be required for any drop off within 8 feet of the pavement edge that exceeds 6 inches in depth. Extended Leg Type II barricades shall be in compliance with the height requirements of IDOT Standard 701901. Type II extended leg barricades may be of an "A" frame type with either wood or plastic panels and metal or non-metallic legs and have no rigid stay bracing. The method of weighting the Extended Leg Type II barricades shall be in accordance with the manufacturer's guidelines and approved by the Engineer. Extended Leg Type II barricades shall be equipped with mono-directional steady burn lights and shall be placed at a spacing of 50 feet center to center.

Check barricades shall be placed in work areas perpendicular to traffic every 1,000 feet, at one per lane and one per shoulder, to prevent motorists from using work areas as a traveled way. Two additional check barricades shall be placed in advance of each patch excavation or any other hazard in the work area. The first will be placed at the edge of the open traffic lane and the second centered on the closed lane. Check barricades shall be Type II and equipped with flashing amber light.

All Type II Barricades shall be made of plastic, fiberglass or other non-metallic materials. The top panels will be 12 inches x 24 inches and the bottom panels will be 8 inches x 24 inches. The orange and white reflective sheeting will be Type A, meeting the initial minimum coefficient of reflection in Article 1084.02 of the "Standard Specifications". All other requirements for Type II barricades will be met.

Article 701.15 Traffic Control Devices (e) Direction Indicator Barricades shall be modified by adding the following paragraphs.

Direction Indicator Barricades shall be used exclusively in lane closure and lane shift tapers. They shall be used only when traffic is being merged with an adjacent through lane or flush median, shifted onto a median crossover or being diverted onto a construction run-around. The barricades shall be placed in series in a taper with the arrow panel directing traffic in the direction of the merge, crossover or run-around. The direction indicator barricades shall meet the requirements for Type II barricades as stated in this special provision. The top panel, which faces traffic, shall be 12 inches x 24 inches with fluorescent orange sheeting meeting the requirements of Article 1084.02(b) of the "Standard Specifications". The top panel indicator arrow shall be 21 inches long with a 9½ inch wide arrow barb and a 3½ inch wide arrow shaft. The top panel, facing away from traffic shall have a 12 inch x 24 inch orange and white diagonal panel. The bottom panels shall be 8 inches x 24 inches with orange and white diagonal sheeting, as shown in LCDOT's Special Detail LC7200. All sheeting shall meet the initial coefficient of retroreflection in Article 1084.02(a) of the "Standard Specifications", for Type A sheeting.

Article 701.15 Traffic Control Devices (f) Drums shall be replaced with the following:

- (f) Drums. Type II barricades shall be used in lieu of drums.

Article 701.15 Traffic Control Devices (j) Portable Changeable Message Signs shall be replaced with the following:

- (j) Portable Changeable Message Signs (PCMS). This work shall consist of

furnishing, placing and maintaining a changeable message sign(s) at location(s) shown on the plans, in the standards or as directed by the Engineer.

The sign(s) shall be trailer mounted. The message panel shall be at least 7 feet above the pavement, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time. Character height shall be 18 inches.

The message panel shall be of either a LED matrix, bulb matrix or disc matrix design controlled by an onboard computer capable of storing a minimum of 99 programmed messages for instant recall. The computer shall be capable of being programmed to accept messages created by an operator via an alphanumeric keyboard and able to flash any six messages in sequence. The message panel shall also be capable of being controlled by a computer from a remote location via a cellular linkage. The Contractor shall supply the modem, cellular telephone, and the necessary software to run the sign from a remote computer at a location designated by the Engineer. The Contractor shall promptly program and/or reprogram the computer to provide the messages as directed by the Engineer.

The message panel shall be visible from 1,320 feet under both day and night conditions. The letters shall be legible from 750 feet.

The sign shall include automatic dimming for nighttime operation and a power supply capable of providing 24 hours of uninterrupted service.

The Contractor shall provide all preventive maintenance efforts he/she deems necessary to achieve uninterrupted service. If service is interrupted for any cause and not restored within the time allotted by the modifications Article 701.04 of the "Standard Specifications" contained in this special provision, a traffic control deficiency penalty can be imposed and the Engineer will cause such work to be performed as may be necessary to provide this service. The cost of such work shall be borne by the Contractor or deducted from current or future compensation due to the Contractor.

When the sign(s) are displaying messages, they shall be considered a traffic control device. At all times when no message is displayed, they shall be considered equipment.

Basis of Payment. When portable message signs are shown on a Standard, this work shall be considered as included in the lump sum payment for Traffic Control and Protection. For all other portable changeable message signs, this work will be paid for at the contract unit price per calendar month for each sign

as CHANGEABLE MESSAGE SIGN, as stated in Article 701.08 of this special provision.

Article 701.17 Specific Construction Operations (c) Surface Courses and Pavement
(1) Prime Coat shall be replaced by the following:

- (1) Prime Coat. "FRESH OIL" signs (W21-1) shall be used when the prime coat is applied to pavement that is open to traffic. The signs are to remain in place until tracking of the prime ceases. These signs shall be erected a minimum of 500 feet preceding the start of the prime and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 of the "Standard Specifications" as modified by this special provision (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency charge. All signs shall have an amber flashing light attached.

Article 701.17 Specific Procedures (c) Surface Courses and Pavement (2) Cold Milling shall be replaced by the following:

- (2) Cold Milling. "ROUGH GROOVED SURFACE" signs (W8-1107) shall be used when the road has been cold milled and is open to traffic. The signs shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 feet preceding the start of the milled pavement and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. All signs shall have an amber flashing light attached.

Article 701.17 Specific Procedures (c) Surface Course and Pavement shall be modified by adding the following paragraph:

- (6) Area Reflective Crack Control Treatment Fabric. "SLIPPERY WHEN WET" signs (W8-5) shall be used when crack control fabric is applied to pavement that is open to traffic. These signs shall remain in place until the binder course is laid. The signs shall be erected a minimum of 500 feet preceding the start of the crack control treatment and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 of the "Standard Specifications" as modified by this special provision (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency charge. All signs shall have an amber flashing light attached.

Article 701.18 Highway Standards Application (b) Standard 701316 and 701321 (2) g. Detector Loops, shall be replaced with the following:

- g. Microwave Vehicle Sensors. Microwave Vehicle Sensors shall be installed as directed by the Engineer. The installation of the microwave vehicle sensors shall meet the applicable requirements of Section 850 of the "Standard Specifications". LCDOT shall approve the proposed microwave vehicle sensor before the Contractor may furnish or install it. The Contractor shall install, wire and adjust the alignment of the sensor in accordance to the manufacturer's recommendations and requirements. The Engineer shall approve the installation.

The microwave vehicle sensor shall meet the following requirements:

- Detection Range: Adjustable to 60 feet
- Detection Angle: Adjustable, horizontal and vertical
- Detection Pattern: 16 degree beam width minimum. [at 50 feet the pattern shall be approximately 15.5 feet wide]
- Mounting: Heavy-duty bracket, predrilled and slotted for pole mounting

Article 701.18 Highway Standards Application (j) Urban Traffic Control, Standards 701501, 701502, 701602, and 701606. (1) General, shall be modified by adding the following paragraphs:

Whenever a lane is closed to traffic using IDOT standard 701606, the pavement width transition sign (W4-2R or W4-2L) shall be used in lieu of the "WORKERS" sign (W21-1 or W21-1a)

Whenever any vehicle, equipment, workers or their activities infringe on the shoulder or within 15 feet of the traveled way, and the traveled way remains unobstructed, then the applicable Traffic Control Standard shall be 701006. The "SHOULDER WORK AHEAD" sign (W21-5(0)-48) shall be used in lieu of the "WORKERS" sign (W21-1 or W-21-1a).

All diamond shaped warning signs shall have a minimum dimension of 48 inches x 48 inches. The Engineer may approve diamond shape warning signs measuring 36 inches x 36 inches when the posted speed limit is 30 M.P.H. or less.

Article 701.19 Method of Measurement shall be replaced completely with the following:

701.19 Method of Measurement.

These items of work will be measured on a lump sum basis for furnishing installing, maintaining, replacing, relocating and removing the traffic control devices required in the plans and these special provisions.

Article 701.20 Basis of Payment shall be replaced completely with the following:

701.20 Basis of Payment

This work will be paid for at the contract unit price per lump sum for TRAFFIC CONTROL AND PROTECTION. The payment will be in full for all labor, materials, transportation, and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices indicated in the plans and specifications, except for the following items, which will be paid for separately.

- 1) Temporary Raised Pavement Markers.
- 2) Construction Speed Limit Trailer
- 3) Sand module impact attenuators
- 4) Traffic Control Supervisor
- 5) Portable Changeable Message Signs (when not shown on a standard)
- 6) Temporary Concrete Barrier
- 7) Monodirectional Prismatic Barrier Reflector

The salvage value of the materials removed shall be reflected in the bid price for this item.

Any delays or inconveniences incurred by the Contractor while complying with these requirements shall be considered incidental to TRAFFIC CONTROL AND PROTECTION and no additional compensation will be allowed.

Any traffic control devices required by the Engineer to implement the Traffic Control Plan as shown in the plans and specifications of the contract shall be considered incidental to the pay item TRAFFIC CONTROL AND PROTECTION.

If the Engineer requires additional work involving a substantial change of location and/or work which differs in design and/or work requiring a change in the type of construction, as stated in Article 104.02(d) of the "Standard Specifications" the standards and/or the designs, other than those required in the plans, will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required for the reasons listed above will be in accordance with Article 109.04 of the "Standard Specifications".

Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. The Contractor shall submit revisions or modifications to the traffic control plan shown in the contract to the Engineer for approval. No additional payment will be made for a Contractor requested modification.

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

$$\text{Adjusted Contract Price} = 0.25P + 0.75P [1 \pm (X - 0.1)]$$

P = the contract price for TRAFFIC CONTROL AND PROTECTION

$$X = \frac{\text{Difference between original and final sum total value of all work items for which traffic control and protection is required}}{\text{Original sum total value of all work for which traffic control and protection is required.}}$$

The value of the work items used in calculating the increase and decrease will include only items that have been added to or deducted from the contract under Article 104.02 of the "Standard Specifications" and only items that require the use of TRAFFIC CONTROL AND PROTECTION.

In the event LCDOT cancels or alters any portion of the contract that result in the elimination or incompleteness of any portion of the work, payment for partially completed work will be made in accordance with Article 104.02 of the "Standard Specifications".

SECTION 780 PAVEMENT STRIPING

Effective: July 1, 2007
Revised: April 10, 2008

Description: This work shall consist of furnishing and applying thermoplastic pavement markings.

Materials: The materials shall be according to Article 780.02 of the "Standard Specifications" and the following:

Article 1095.01 for Thermoplastic Pavement Markings, paragraph (a) Ingredient Materials, subparagraph (4) Glass Beads, shall be modified by adding the following sentence:

The percentage of Glass Beads, Type A, shall be raised to 45% by decreasing the percentage of filler material specified in subparagraph (3) by 15% .

General: This work shall be performed according to Section 780 of the "Standard Specifications" and the following:

The equipment used to apply thermoplastic pavement markings, under this contract, shall be limited to hand-operated equipment only. Truck-mounted equipment shall not be used.

Method of Measurement:

Lines will be measured for payment in place in feet. Double yellow lines will be measured as two separate lines.

Words and symbols shall conform to the sizes and dimensions specified in the Illinois Manual on Uniform Traffic Control Devices and IDOT standard 780001. They will be measured based on the total areas indicated in Table 1 of Section 780 of the "Standard Specifications", or as indicated on the plans.

Basis of Payment: This work will be paid for at the contract price per foot of applied THERMOPLASTIC PAVEMENT MARKING – LINE of the width specified; and/or per square foot for THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS

78008XXX POLYUREA PAVEMENT MARKING

Effective: June 1, 2007

Description: This work shall consist of furnishing and applying polyurea pavement marking lines and symbols.

The type of polyurea pavement marking applied will be determined by the type of reflective media used. Polyurea Pavement Marking Type I shall use glass beads as a reflective media. Polyurea Pavement Marking Type II shall use a combination of composite reflective elements and glass beads as a reflective media.

Polyurea-based liquid pavement markings shall only be applied by Contractors on the list of Approved Polyurea Contractors maintained by the Engineer of Operations and in effect on the date of advertisement for bids.

Materials: Materials shall meet the following requirements:

(a) *Polyurea Pavement Marking: The polyurea pavement marking material shall consist of 100 percent solid two part system formulated and designed to provide a simple volumetric mixing ratio of two components (must be two or three volumes of Part A to one volume of Part B). No volatile or polluting solvents or fillers will be allowed.*

(b) *Pigmentation: The pigment content by weight (mass) of component A shall be determined by low temperature ashing according to ASTM D 3723. The pigment content shall not vary more than + or - two percent from the pigment content of the original qualified paint.*

White Pigment shall be Titanium Dioxide meeting ASTM D 476 Type II, Rutile.

Yellow Pigment shall be an Organic Yellow and contain no heavy metals.

(c) *Environmental: Upon heating to application temperature, the material shall not exude fumes, which are toxic or injurious to persons or property.*

(d) *Daylight Reflectance: The daylight directional reflectance of the cured polyurea material (without reflective media) shall be a minimum of 80 percent (white) and 50 percent (yellow) relative to magnesium, oxide when tested using a color spectrophotometer with a 45 degrees circumferential /zero degrees geometry, illuminat C, and two degrees observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm. In addition, the color of the yellow polyurea shall visually match Color Number 33538 of the Federal Standard 595a with chromaticity limits as follows:*

X	0.490	0.475	0.485	0.539
Y	0.470	0.438	0.425	0.456

- (e) *Weathering Resistance: The polyurea marking material when mixed in the proper ratio and applied at 14 to 16 mils wet film thickness to an aluminum alloy panel (Federal Test Std. No. 141, Method 2013) and allowed to cure for 72 hours at room temperature, shall be subjected to accelerated weathering for 75 hours. The accelerated weathering shall be completed by using the light and water exposure apparatus (fluorescent UV-condensation type) and tested according to ASTM G 53.*

The cycle shall consist of four hours UV exposure at 122°F and four hours of condensation at 104° F. UVB 313 bulbs shall be used. At the end of the exposure period, the material shall show no substantial change in color or gloss.

- (f) *Dry Time: The polyurea pavement marking material when mixed in the proper ratio and applied at 14 to 16 mils wet film thickness and the proper saturation of reflective media, shall exhibit no tracking time of ten minutes or less when tested according to ASTM D 711.*

- (g) *Adhesion: The catalyzed polyurea pavement marking materials when applied to a 4 x 4 x 2 inch concrete block, shall have the degree of adhesion which results in 100 percent concrete failure in the performance of this test.*

The concrete block shall be brushed on one side and have a minimum strength of 3500 psi. A 2-inch square film of mixed polyurea shall be applied to the brushed surface and allowed to cure for 72 hours at room temperature. A 2-inch square cube shall be affixed to the surface of the polyurea by means of epoxy glue. After the glue has cured 24 hours, the polyurea specimen shall be placed on a dynamic testing machine in such a fashion so that the specimen block is in a fixed position and the 2-inch cube (glued to the polyurea surface) is attached to the dynamometer head. The location of the break and the amount of concrete failure shall be recorded.

- (h) *Hardness: The polyurea pavement marking materials when tested according to ASTM D 2240, shall have a shore D hardness of between 70 and 100. Films shall be cast on a rigid substrate at 14 to 16 mils in thickness and allowed to cure at room temperature for 72 hours before testing.*

- (i) *Abrasion: The abrasion resistance shall be evaluated according to ASTM D 4060 using a Taber Abrader with a 1,000 gram load and CS 17 wheels. The duration of the test*

shall be 1,000 cycles. The loss shall be calculated by difference and be less than 120 mgs. The test shall be run on cured samples of polyurea material which have been applied at a film thickness of 14 to 16 mils to code S-16 stainless steel plates. The films shall be allowed to cure at room temperature for at least 72 hours and not more than 96 hours before testing.

(j) Reflective Media: *The reflective media shall meet the following requirements:*

(1) Type I – The glass beads shall meet the requirements of article 1095.07 of the “Standard Specifications” and the following requirements:

a. First Drop Glass Beads: *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 sieve requirements:*

U.S. Standard Sieve Number	Sieve Size	% Passing By Weight (mass)
12	1.70 mm	95-100
14	1.40 mm	75-95
16	1.18 mm	10-47
18	1.00 mm	0-7
20	850 um	0-5

b. Second Drop Beads. The second drop beads shall meet the requirements of Article 1095.07 of the “Standard Specifications” for Type B glass beads.

(2) Type II – The combination of microcrystalline ceramic elements and glass beads shall meet the following requirements:

a. First Drop Glass Beads: *The first drop glass beads shall meet the following requirements:*

1. Composition: *The elements shall be composed of a titania opacified ceramic core having clear and or yellow tinted microcrystalline ceramic beads embedded to the outer surface.*
2. Index of Refraction: *All microcrystalline reflective elements embedded to the outer surface shall have an index of refraction of 1.8 when tested by the immersion method.*

3. **Acid Resistance:** A sample of microcrystalline ceramic beads, supplied by the manufacturer, shall show resistance to corrosion of their surface after exposure to a one percent solution (by weight (mass)) of sulfuric acid. Adding 0.2 oz. of concentrated acid into water shall make the one percent acid solution. This test shall be performed by taking a 1 x 2 inch sample and adhering it to the bottom of a glass tray and placing just enough acid solution to completely immerse the sample. The tray shall be covered with a piece of glass to prevent evaporation and allow the sample to be exposed for 24 hours under these conditions. The acid solution shall be decanted (do not rinse, touch, or otherwise disturb the bead surfaces) and the sample dried while adhered to the glass tray in a 150°F oven for approximately 15 minutes. Microscope examination (20X) shall show no white (corroded) layer on the entire surface.

b. **Second Drop Glass Beads:** The second drop glass beads shall meet the requirements of Article 1095.07 of the "Standard Specifications" for Type B glass beads or the following manufacturer's specification:

1. **Sieve Analysis:** The glass beads shall meet the following sieve requirements:

U.S. Standard Sieve Number	Sieve Size	% Passing By Weight (mass)
20	850 um	100
30	600 um	75-95
50	300 um	15-35
100	150 um	0-5

2. **Imperfections:** The surface of the glass beads shall be free of pits and scratches. The glass beads shall be spherical in shape when tested by the standard method using a vibratile inclined glass plate as adopted by the Illinois Department of Transportation.

3. **Index of Refraction:** The index of refraction of the glass beads shall be a minimum of 1.50 when tested by the immersion method at 77°F.

(k) **Packaging:** Microcrystalline ceramic reflective elements and glass beads shall be delivered in approved moisture proof bags or weather resistant bulk boxes. Each carton

shall be legibly marked with the manufacturer, specification, and the type, lot number, and the month and year the microcrystalline ceramic elements and/or glass beads were packaged. The letters and numbers used in the stencils shall be a minimum of ½ inch in height.

- (1) Moisture Proof Bags: *Moisture proof bags shall consist of at least five ply paper construction unless otherwise specified. Each bag shall contain 50 lb. net.*
 - (2) Bulk Weather Resistance Boxes: *Bulk weather resistance boxes shall conform to the Federal Specification PPP-8-640D Class II or latest revision. Boxes are to be weather resistant, triple wall, fluted, corrugated-fiber board. Cartons shall be strapped with two metal straps. Straps shall surround the outside perimeter of the carton. The first strap shall be located approximately 2 inches from the bottom of the carton and the second strap shall be placed approximately in the middle of the carton. All cartons shall be shrink wrapped for protection from moisture. Cartons shall be lined with a minimum 4 mil polyester bag and meet Interstate Commerce Commission requirements. Cartons shall be approximately 38 inches x 38 inches and contain 2000 lb. (one ton) of microcrystalline ceramic reflective elements and or glass beads and be supported on a wooden pallet with fiber straps.*
- (l) Packaging: *The material shall be shipped to the job site in substantial containers and be plainly marked with the manufacturer's name and address, the name and color of the material, date of manufacturer, and batch number.*
 - (m) Verification: *Prior to approval and use of the polyurea pavement marking materials, the manufacturer shall submit a notarized certification of an independence laboratory, together with the results of all test stating these materials meet the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, brand name of the polyurea and date of manufacture. The certification shall be accompanied by a material approval by the Illinois Department of Transportation. After material approval by the Illinois Department of Transportation, certification by the polyurea manufacturer shall be submitted for each batch used. New independent laboratory certified test results and samples for testing by the Illinois Department of Transportation shall be submitted any time the manufacturing process or paint formulation is changed. All cost of testing shall be borne by the manufacturer.*
 - (n) Acceptance Samples: *The manufacturer shall comply with all requirements of the Illinois Department of Transportation in regards to acceptance of the material samples for approval of the product.*
 - (o) Material Retainage: *The manufacturer shall retain the test samples for a minimum of 18 months.*

Equipment: *The polyurea pavement marking compounds shall be applied through equipment specifically designed to apply two component liquid materials, glass beads and /or reflective elements in a contiguous and skip-line pattern. The two-component liquid materials shall be applied after being accurately metered and then mixed with a static mix tube or airless impingement mixing guns. The static mixing tube or impingement mixing guns shall accommodate plural component material systems that have a volumetric ratio of 2 to 1 or 3 to 1. This equipment shall produce the required amount of heat at the mixing head and gun tip and maintain those temperatures within the tolerances specified. The guns shall have the capacity to deliver materials from approximately 1.5 to 3 gallons/minute to compensate for a typical range of speeds of 6 to 8 mph. The accessories such as spray tip, mix chamber, and rod diameter shall be selected according to the manufacturer's specifications to achieve proper mixing and acceptable spray pattern. The application equipment shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in a true arc. This equipment shall also have as an integral part of the gun carriage, a high pressure air spray capable of cleaning the pavement immediately prior to making application.*

The equipment shall be capable of spraying both yellow and white polyurea, according to the manufacturer's recommended proportions and be mounted on a truck of sufficient size and stability with an adequate power source to produce lines of uniform dimensions and prevent application failure. The truck shall have at least two polyurea tanks each of 110 gallons minimum capacity and be equipped with hydraulic systems and agitators. It shall be capable of placing stripes on the left and right sides and placing two lines on a three-line system simultaneously with either line in a solid or intermittent pattern in yellow or white, and applying the appropriate reflective media according to the manufacturer's recommendations. All guns shall be in full view of operations at all times. The equipment shall have a metering device to register the accumulated installed quantities for each gun, each day. Each vehicle shall include at least one operator who shall be a technical expert in equipment operations and polyurea application techniques. Certification of equipment shall be provided at the pre-construction conference.

The mobile applicator shall include the following features:

- (a)Material Reservoirs: *The applicator shall provide individual material reservoirs, or space for storage of Part A and Part B of the resin composition.*
- (b)Heating Equipment: *The applicator shall be equipped with heating equipment of sufficient capacity to maintain the individual resin components at the manufacturer's recommended temperature of plus or minus 5°F for spray application.*
- (c)Dispensing Equipment: *The applicator shall be equipped with glass bead and or reflective element dispensing equipment. The applicator shall be capable of applying the glass beads and or reflective elements at a rate and combination indicated by the manufacturer.*

(d) Volumetric Usage: *The applicator shall be equipped with metering devices or pressure gauges on the proportioning pumps as well as stroke counters to monitor volumetric usage. Metering devices or pressure gauges and stroke shall be visible to the engineer.*

(e) Pavement Marking Placement: *The applicator shall be equipped with all the necessary spray equipment, mixers, compressors and other appurtenances to allow for the placement of reflectorized pavement markings in a simultaneous sequence of operations.*

The Contractor shall provide an accurate temperature-measuring device(s) that shall be capable of measuring the pavement temperature prior to application of the material, the material temperature at the gun tip and the material temperature prior to mixing.

Construction Requirements:

General: The pavement shall be cleaned by a method approved by the Engineer to remove all dirt, grease, glaze, or other material that would reduce the adhesion of the markings with minimum or no damage to the pavement surface. New portland cement concrete pavements shall be air-blast-cleaned to remove all latents.

Widths, lengths, and shapes of the cleaned surface shall be of sufficient size to include the full area of the specified pavement markings to be placed.

Markings shall be applied to the cleaned surface on the same calendar day. If this cannot be accomplished, the surface shall be re-cleaned prior to applying the markings. No markings shall be applied until the Engineer approves the cleaning.

The pavement markings shall be applied to the cleaned road surface, during conditions of dry weather and subsequently dry pavement surfaces at a minimum uniform wet thickness of 15 mils according to manufacturer's installation instructions. On new hot-mix asphalt (HMA) surfaces the pavement markings shall be applied at a minimum uniform wet thickness of 20 mils. The application of and combination of reflective media (glass beads and /or reflective elements) shall be applied at a rate specified by the manufacturer. At the time of installation the pavement surface temperature and the ambient temperature shall be above 40°F and rising. The pavement markings shall not be applied if the pavement shows any visible signs of moisture or it is anticipated that damage causing moisture, such as rain showers, may occur during the installation and set periods. The Engineer will determine the atmospheric conditions and the pavement surface conditions that produce satisfactory results.

Using the application equipment, the pavement markings shall be applied in the following manner, as a simultaneous operation:

(a) *The surface shall be sand blasted to remove any dirt and residue.*

(b) *The resin shall be mixed and heated according to the manufacturer's recommendations and sprayed onto the pavement surface.*

The edge of the center line or lane line shall be offset a minimum of 2 inches from the longitudinal crack or joint. Edge lines shall be approximately 2 inches from the edge of the pavement or as directed by the Engineer. The finished center and lane lines shall be straight, with a lateral deviation of any 10-foot line not to exceed 1 inch.

Notification: The Contractor shall notify the Engineer 72 hours prior to the placement of the markings in order that he/she can be present during the operation. At the time of notification, the Contractor shall provide the Engineer, the manufacturer and lot numbers of polyurea and reflective media that will be used.

Inspection: The polyurea pavement markings will be inspected following the installation according to Article 780.10 of the "Standard Specifications" except, no later than December 15, and inspected following a winter performance period that extends 180 days from December 15.

Method of Measurement: This work will be measured for payment in place, in feet for lines of the width specified, and in square feet for letters and symbols. Double yellow lines will be measured as two separate lines.

Basis of Payment: This work will be paid for at the contract unit price per foot for POLYUREA PAVEMENT MARKING TYPE I – LINE; POLYUREA PAVEMENT MARKING TYPE II – LINE of the line width specified and/or at the contract unit price per square foot for POLYUREA PAVEMENT MARKING TYPE I – LETTERS AND SYMBOLS; POLYUREA

78100100 RAISED REFLECTIVE PAVEMENT MARKER

Effective: January 1, 2007

Description: This work shall consist of placing permanent raised reflective pavement markers.

Materials: The materials shall be according to Article 781.02 of the "Standard Specifications".

General: The work shall be performed according to Section 781 of the "Standard Specifications" and the following:

Sawcutting the pavement for the installation of raised pavement markers shall be done by means of dry cutting the pavement. The Contractor shall maintain the pavement and the surrounding area in clean, dry condition and shall vacuum the dust and millings from the pavement surface.

The method of cutting the pavement may be altered by the Contractor provided the pavement surface and the surrounding area are cleaned to the satisfaction of the Engineer. Alternate methods of cutting the pavement shall be approved by the Engineer.

Basis of Payment: This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER. *The unit price shall include all costs for sawing and cleaning the pavement, regardless of the sawing method used.*

78200405 GUARDRAIL MARKERS.

Effective: January 1, 2007

Description: This work shall consist of furnishing and installing guard rail reflectors on guard rail.

Materials: *The reflectors shall be a "# 567 GUARD RAIL DELINEATOR", as manufactured by AKT Corporation, Wauwatosa, Wisconsin, or an approved equal.*

*The bracket shall have a minimum thickness of 12 gauge and shall have **both sides** faced with white, high intensity reflective sheeting.*

General: *The reflectors shall be spaced 25 feet on center or as directed by the Engineer.*

Basis of Payment: This work will be paid for at the contract unit price per each for GUARDRAIL **MARKERS.**

78201000 TERMINAL MARKER – DIRECT APPLIED

Description: This work shall consist of installing a terminal marker direct applied to proposed traffic barrier terminal type 1, special as shown on the plans. .

Materials: The materials shall be according to manufacturer's specifications.

General: The work shall be performed according to Section 631 of the "Standard Specifications" and the following:

Basis of Payment: This work will be paid for at the contract unit price per each for TERMINAL MARKER – DIRECT APPLIED.

78300200 RAISED REFLECTIVE PAVEMENT MARKER REMOVAL

Effective: January 1, 2007

Description: This work shall consist of removing existing raised reflective pavement markers.

General: The work shall be performed according to Section 783 of the "Standard Specifications" and the following:

The work shall include the removal of the raised reflective pavement marker and the patching the hole with hot-mix asphalt leveling binder. The leveling binder shall be compacted and leveled to the same elevation as the surrounding existing pavement surface.

Basis of Payment: This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL. *The unit price shall include all costs for removing the marker and placing the leveling binder.*

DIVISION 800. ELECTRICAL

817 WIRE AND CABLE

Effective: January 1, 2007

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

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

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

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

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

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

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

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

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

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

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

Aerial Electric Cable Properties

Phase Conductor		Messenger wire			
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1

4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1
3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

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

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

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

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

Revise Article 1066.04 to read:

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

Revise the second paragraph of Article 1066.05 to read:

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

Revise Article 1066.08 to read:

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

LAKE COUNTY DIVISION OF TRANSPORTATION TRAFFIC SIGNAL SPECIFICATIONS

Effective: January 1, 2007

Revision: August 30, 2007

All work and equipment performed and installed under this Contract:

County Highway Name: Washington Street
 County Highway Number: CH45
 County Highway Section: 02-00110-12-WR

shall be governed by and shall comply with:

SPECIFICATION	ADOPTED/DATED
The State of Illinois "Standard Specifications for Road and Bridge Construction" referred to as "Standard Specifications"	Latest Edition
The State of Illinois "Manual on Uniform Traffic Control Devices for Streets and Highways," referred to as "MUTCD"	Latest Edition
The National Electrical Code referred to as "NEC"	Latest Edition
The National Electrical Manufacturers Association (All publications for traffic control items) referred to as "NEMA"	Latest Edition
The International Municipal Signal Association ("Official Wire & Cable Specifications Manual,") referred to as "IMSA"	Latest Edition
The Institute of Transportation Engineers Technical Report No. 1, (A Standard for Adjustable Face Vehicular Traffic Control Heads) referred to as "ITE"	Latest Edition
AASHTO "Standard Specifications" Structural Supports for Highway Signs, Luminaires, and Traffic Signals	Latest Edition
Supplemental Specifications and Recurring Special Provisions	Latest Edition

The following Traffic Signal Special Provisions supplement the above specifications, manuals, and codes. In case of conflict with any part or parts of said documents, these Special Provisions shall take precedence and shall govern.

The following terms and acronyms are used:

IDOT	Illinois Department of Transportation
District 1	IDOT District 1
LCDOT	The Lake County Division of Transportation
Engineer	The Resident Engineer
Traffic Engineer	The County Traffic Engineer – LCDOT

The construction, installation, modification and/or removal work shall be accomplished at the following intersection(s):

As shown on the plans

The intent of this Special Provision is to prescribe the materials and construction methods commonly used in traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be indicated on the plans or as directed by the Engineer.

The work performed under this contract shall consist of furnishing and installing all traffic signal work as specified on the plans and as specified herein in a manner acceptable and approved by the Engineer.

MAST ARM SIGN PANELS

Add the following to Article 720.02 of the "Standard Specifications":

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by LCDOT. All aluminum signs shall have a white reflectorized legend and border on a green reflectorized background, type AZ sheeting. The sign face shall not have any holes. 3M Scotch Joining Systems bonding tape or an approved equal shall be used in place of screws or rivets. The Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware, or bonding tape may be acceptable based upon LCDOT approval.

INSPECTION OF ELECTRICAL SYSTEMS

Add the following to Article 802.01 of the "Standard Specifications":

All cabinets, including temporary traffic signal cabinets, shall be assembled by an approved equipment supplier in District One. LCDOT reserves the right to request that any controller and cabinet be tested at a District 1 approved equipment supplier's facility prior to field installation. Such testing will be at no extra cost to the contract. All permanent or temporary "railroad

interconnected" controllers and cabinets, shall be newly constructed, built, tested and approved by the controller equipment vendor, in the vendor's District 1 approved facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

DAMAGE TO TRAFFIC SIGNAL SYSTEM

Revise Article 802.02 of the "Standard Specifications" to read:

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

INTERRUPTION OF COMMUNICATION

The interruption of communication with County equipment shall be kept to an absolute minimum. This includes communication such as controller telemetry, video transmission, camera control signals, Highway Advisory Radio, wireless interconnect, telephone (POTS/ISDN/DSL), high speed Internet, or any other County communication signals. This provision applies to cable types including copper, multimode fiber optic, singlemode fiber optic, telephone cables, Internet cables, or any other cable used by the County to monitor and maintain its various signal and ITS equipment.

The contractor shall plan ahead, and shall stage his construction work accordingly, so that he can interrupt communication, and then restore communication, with as little down time as possible. For example, when a section of existing interconnect is being relocated, the new handholes and conduits should be installed prior to disconnecting the interconnect cable. The interconnect cable can then be disconnected, pulled out of the existing conduit, pulled through the new conduit, and re-connected. In addition, when an existing fiber optic cable is to be re-used, the contractor shall be prepared to immediately replace any fiber splices and/or terminations that become damaged.

Prior to disconnecting any LCDOT communication link, the contractor shall contact the Traffic Engineer for approval of his planned construction method.

RESTORATION OF WORK AREA

Add to Section 802 of the "Standard Specifications":

Restoration of the traffic signal work area shall be incidental to the related pay item such as foundation, conduit, handhole, trench and backfill, etc. and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be restored to match the previously existing conditions. All damage to mowed lawns shall be

replaced with an approved sod, and all damage to unmowed fields shall be seeded, in accordance with Section 250 and 252 of the "Standard Specifications" respectively.

SUBMITTALS.

Revise Article 802.04 of the "Standard Specifications" to read:

The Contractor shall provide:

- a. All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within thirty (30) calendar days after the contract is awarded, or within fifteen (15) calendar days after the preconstruction meeting, whichever is earliest.
- b. Seven (7) copies of a letter listing the manufacturer's name and the model numbers of the proposed equipment. The Traffic Engineer will review the letter and determine whether the proposed equipment is approved for use. The copies will be stamped as "approved", "not approved", or "approved as corrected" and returned to the Contractor.
- c. Two (2) copies of material catalog cuts.
- d. Seven (7) copies of mast arm poles and assemblies drawings.
- e. The contract number or permit number, project location/limits and corresponding pay item number must be on each sheet of the letter, material catalog cuts and mast arm poles and assemblies drawings as required in items b, c and d.
- f. Exceptions, Deviations and Substitutions. In general, exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

MAINTENANCE AND RESPONSIBILITY.

Revise Article 802.07 of the "Standard Specifications" to read:

- a) Existing traffic signal installations and/or any electrical facilities at locations included in this contract may be altered or reconstructed totally or partially as part of the work on this contract. The Contractor is hereby advised that all traffic control equipment presently installed at these locations may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, or the Municipality in which it is located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the pay item MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION, TEMPORARY TRAFFIC SIGNAL INSTALLATION, and/or MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION, shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer and the County's Traffic Signal Maintenance Contractor a 24-hour emergency contact name and telephone
- b)

number. The Contractor shall provide sufficient qualified personnel to respond to all notifications of malfunctions on a round-the-clock basis (24 hours a day, 7 days a week). The Contractor is required to keep a time and date log of each response, from the time of the initial report to the time of final permanent repair.

- b) When the project has a pay item for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION, TEMPORARY TRAFFIC SIGNAL INSTALLATION, and/or MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION, the Contractor must notify the Traffic Engineer at **(847) 377-7400** of their intent to begin any physical construction work on the project or any portion thereof. This notification must be a minimum of seven (7) working days prior to the start of construction to allow sufficient time for an inspection of the existing traffic signal installation(s) and the transfer of maintenance to the Contractor. If work is started prior to the inspection, maintenance of the traffic signal installation(s) will be immediately transferred to the Contractor without an inspection. The Contractor shall then become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs to or the replacement of damaged equipment must meet the approval of the Engineer at the time of final inspection or the traffic signal installation will not be accepted.
- c) Contracts that don't include traffic signal installations or modifications, but do include pay items for milling or pavement patching which may result in the destruction of traffic signal loops, do not require maintenance transfer. These contracts do require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Traffic Engineer at **(847) 377-7400**, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection.
- d) The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most unavoidable down time. Any plan to shutdown the traffic signal installation for a period exceeding fifteen (15) minutes must receive prior approval from the Engineer. Approval to shutdown the traffic signal installation will only be granted during the hours of 9:00 A.M. to 3:00 P.M. on weekdays. Shutdowns will not be allowed during inclement weather, weekends or holiday periods.
- e) The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Division, the County's Traffic Signal Maintenance Contractor or the public, shall be investigated and repairs started within one hour. Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Contractor shall restore service and complete permanent repairs in accordance with the following Repair Timetable. The Traffic Engineer reserves the right to assign any work not completed within this timeframe to the County's Traffic Signal Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these

costs to the Traffic Signal Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The County's Traffic Signal Maintenance Contractor may inspect any signaling device on the Division's highway system at any time without notification.

Unless specifically stated to the contrary, all items shall be repaired within the time frame described in the Repair Timetable. The times listed are noncumulative. Any repairs not specifically covered in the Repair Timetable, or described elsewhere, shall be completed within a time frame matching the most similar line item in the Repair Timetable.

REPAIR TIMETABLE
(non cumulative)

<u>ITEM</u>	<u>RESPONSE TIME</u>	<u>SERVICE RESTORATION</u>	<u>PERMANENT REPAIRS</u>
KNOCKDOWNS/FAILURE/DAMAGE:			
Cabinet	1 hr	24hrs	2 wks
Controller (Master)	1 hr	NWD	2 wks
Controller (Local)	1 hr	24hrs	2 wks
Detector Loop	1 hr	n.a.	30 days
Detector Loop (Priority)	1 hr	n.a.	10 days
Loop Detector/Amplifier	1 hr	4 hrs	2 wks
MVP Sensor	1 hr	4 hrs	2 wks
PTZ Camera	2 hrs	48 hrs	2 wks
Detector Interface Card/Mini Hub	1 hr	4 hrs	2 wks
Modem	1 hr	NWD	2 wks
Load Switch	1 hr	2 hrs	2 hrs
Signal Head/Lenses	1 hr	2 hrs	NWD
Pole/Mast Arm	1 hr	2 hrs	ENG
Cabling/Conduit	1 hr	4 hrs	ENG
Interconnect/Communication	1 hr	NWD	ENG
Graffiti/Advertising	NWD	NWD	NWD
Telemetry, Electrical	1 hr	2 hrs	NWD
Indicators/switches/LEDs/displays	NWD	n.a.	2 wks
Outages not covered elsewhere	1 hr	2 hrs	NWD
Filter/Cleanliness/fans/thermostat	NWD	NWD	n.a.
Misalignment (conflicting)	1 hr	2 hrs	NWD
Misalignment (non-conflicting)	48hrs	48hrs	1 wk

COMPLAINTS/CALLS/ALARMS:

Timing/Phasing/Programming	1 hr	2 hrs	ENG
Coordination Alarm/Cycle Fail	NWD	ENG	ENG
Controller Alarm/Status Change	1 hr	NWD	1 wk
Detector Alarm/Status change	NWD	NWD	ENG
CMU Flash/Local Flash	1 hr	2 hrs	1 wk
Door Open/Maint. Req.	1 hr	2 hrs	NWD

LEGEND: hr=hour, hrs=hours, NWD=next working day, wk=week, wks=weeks, ENG=acceptable to Engineer, days=calendar days, n.a.=not applicable

TRAFFIC SIGNAL INSPECTION (TURN-ON).

Revise Article 802.10 of the "Standard Specifications" to read:

It is LCDOT's intent to have all electric work completed and the equipment field-tested by the vendor, prior to LCDOT's "turn-on" field inspection. The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and "turn-on" of the traffic signal installation. In the event the Traffic Engineer determines that the work is not complete and that the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date.

The Contractor may request a "turn-on" and inspection of the completed traffic signal installation at each separate location. This request must be made to the Traffic Engineer at **(847) 377-7400** a minimum of seven (7) working days prior to the time of the requested inspection. LCDOT will not grant a field inspection until the Contractor provides notification that the equipment has been field tested, and the intersection is operating according to contract requirements. The LCDOT facsimile number is **(847) 362-5290**.

Signal indications being tested shall match the lane configurations and markings at the intersection. If any conflicting signal indications are visible to motorist or pedestrians while testing, the Contractor shall be responsible to provide police officer(s) to direct traffic. In addition, the Contractor shall provide a representative from the control equipment vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal "turn-ons".

Upon demonstration that the signals are operating properly and that all work has been completed in accordance with the contract and to the satisfaction of the Traffic Engineer, the Traffic Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will reassume the traffic signal maintenance upon successful completion of this inspection.

The Lake County Division of Transportation requires the following from the Contractor at Traffic Signal "turn-ons":

1. One (1) set of signal plans of record.
2. Notification from the Contractor and the equipment vendor that the equipment was satisfactorily field-tested.
3. A knowledgeable representative of the controller equipment supplier shall be present at the traffic signal "turn-on". The representative shall be knowledgeable concerning the cabinet design and the controller functions.
4. A copy of the approved material letter.
5. One (1) copy of the operation and service manuals for the signal controller and the associated control equipment.
6. Five (5) copies (11" x 17") of the cabinet wiring diagrams.
7. Five (5) copies of the traffic signal installation cable log.

Acceptance of the traffic signal equipment by LCDOT shall be based on the inspection results at the traffic signal "turn-on". If approved, the traffic signal acceptance shall be given verbally at the "turn-on" inspection, followed by written correspondence from the Traffic Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until LCDOT acceptance is granted. Any "punch list" work remaining after the installation is accepted shall be completed within thirty (30) calendar days of the acceptance date. If this work is not completed within thirty days, LCDOT reserves the right to have the work completed by others at the Contractor's expense. This cost will be in addition to Liquidated Damages for Untimely Work.

The Contractor shall furnish all equipment and/or parts to keep the traffic signal installation operating.

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

LIQUIDATED DAMAGES FOR UNTIMELY WORK

A primary concern of LCDOT is to maintain a safe and efficient roadway for the public. Therefore, the Contractor shall proceed with the traffic signal work as soon as conditions and project staging permit. If in the opinion of the Engineer construction conditions are suitable for traffic signal work, and the Contractor has not yet begun the traffic signal work, the Engineer shall notify the Contractor to proceed. The Contractor shall begin the traffic signal work within seven (7) calendar days after notification to proceed. The Contractor shall continue to prosecute the traffic signal work until completion, or until he can no longer proceed due to conditions beyond his control. The Contractor shall notify the Engineer of any conditions impeding and/or delaying his prosecution of the work. Failure by the Contractor to proceed

with the traffic signal work as specified herein shall result in liquidated damages of **\$500.00** per calendar day per occurrence.

LOCATING UNDERGROUND FACILITIES.

Revise Section 803 of the "Standard Specifications" to read:

Contractor requests for equipment locates will be granted only once prior to the start of the contract. Additional requests shall be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any item(s) damaged during the construction, at his/her own expense.

Locate requests should be directed to LCDOT's Traffic Signal Maintenance Contractor or to the LCDOT Traffic Engineering Department at (847) 377-7400.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities call J.U.L.I.E. at **1-800-892-0123**. For the locations of some utilities, other Agencies or Municipalities may need to be contacted.

ELECTRIC SERVICE INSTALLATION.

Revise Section 805 of the "Standard Specifications" to read:

Description. This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the details in the "District 1 Standard Traffic Signal Design Details" and applicable portions of the Specifications.

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures. All electrical service enclosures shall be UL 50, single door design, fabricated from Type 5052 H-32 aluminum. All seams shall be continuous welded and ground smooth, and the cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. Enclosures shall meet the following additional requirements:
 1. Pole Mounted Cabinet. The cabinet shall be NEMA Type 4X. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight

and dust-tight seal. A minimum size of 14-inches high, 9-inches wide and 8-inches deep is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.

2. Ground Mounted Cabinet. The cabinet shall be NEMA Type 3R with back panel. The cabinet frame and door shall be 0.125-inch thick, the top 0.250-inch thick, and the bottom 0.500-inch thick. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full-length tamperproof stainless steel .075-inch thick hinge bolted to the cabinet with stainless steel carriage bolts and nylock nuts. The locking mechanism shall be slam-latch type with a keyhole cover. A minimum size of 40-inches high, 16-inches wide, and 15-inches deep is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.
- c. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120-volt load circuit by the means MOV and thermal fusing technology. The response time shall be <math>< 5n</math> seconds and operate within a range of $-40C$ to $+85C$. The surge protector shall be UL 1449 Listed.
 - d. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type, with trip-free indicating handles. 120-volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
 - e. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
 - f. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
 - g. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30-day advance notification will begin only after the Utility

Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.

- h. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10-feet in length, and 3/4-inch in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the Engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.
- b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.
- c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment. The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The type A foundation which includes the ground rod shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4-inch grounding conduit, ground rod, and pole mount assembly. Any changes by the utility companies shall be approved by the Engineer and paid for as an addition to the contract according to Article 109.05 of the "Standard Specifications".

GROUNDING OF TRAFFIC SIGNAL SYSTEMS.

Revise Section 807 of the "Standard Specifications" to read:

General. All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. See IDOT District 1 Traffic Signal detail plan sheet for additional information.

The grounding electrode system shall include a ground rod installed in all foundations, and the service installation. An additional ground rod will be required at locations where measured resistance to ground exceeds 25 ohms. Ground rods are included in the associated pay items and will not be paid for separately. Testing shall be according to Article 801.11.

- a) The grounded conductor (neutral conductor) shall be white color-coded. This conductor shall be bonded to the equipment-grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- b) The equipment-grounding conductor shall be green color-coded. The following is in addition to Article 801.14 of the "Standard Specifications".
 - 1) Equipment-grounding conductors shall be XLP insulated No. 6, unless otherwise noted on the plans, and bonded to the grounded conductor (neutral conductor) only at the electric service Installation. The Earth shall not be used as the equipment-grounding conductor, and no splices shall be allowed in the cable between ground rods. The equipment-grounding conductor is paid for separately.
 - 2) Equipment-grounding conductors shall be bonded, using a Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. A Listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points.
 - 3) All metallic and non-metallic raceways containing traffic signal circuit runs shall have a continuous equipment-grounding conductor, with the following exceptions: Raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment-grounding conductor.
- c) The grounding electrode conductor shall be similar to the equipment-grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment-grounding conductor and is bonded to ground rods via exothermic welding, listed pressure connectors, listed clamps or other approved listed means.

GROUNDING EXISTING HANDHOLE FRAME AND COVER

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

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

grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

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

The grounding cable shall be paid for separately.

Basis of Payment: This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER, which shall be payment in full for grounding one handhole complete, regardless of the type of handhole or its location.

GROUNDING CABLE.

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

Add to Article 817.02 of the "Standard Specifications":

Unless otherwise noted on the Plans, the system grounding cable shall be one conductor, #6 gauge copper, with an XLP jacket.

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

Add the following to Article 817.05 of the "Standard Specifications":

Basis of Payment. Payment shall be at the Contract unit price, per foot, for ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds/other Listed connectors and hardware.

CONDUIT IN GROUND.

The conduit shall meet the requirements of Section 810 of the "Standard Specifications", except for the following:

Delete Article 810.01 of the "Standard Specifications" and add the following:

Description. This item shall consist of furnishing and installing galvanized steel conduit, fittings and accessories in the ground, either pushed, trenched, plowed, or directionally bored, with fittings complete as specified herein and as shown on the Contract drawings.

Add the following to Article 810.03 of the "Standard Specifications":

Pavement, driveways, and curbs shall not be removed to install electrical conduits. All buried conduits shall be placed at a minimum depth of 30 inches, except under railroad tracks, where the minimum depth shall be five (5) feet, as measured from the final surface grade to the top of the conduit. All conduit couplings shall be threaded. Conduits terminating in junction and pull boxes shall be terminated with hubs.

When empty conduit is installed for future traffic signal interconnects(s), the Contractor shall provide a pull line within the conduit.

Revise Article 810.05 of the "Standard Specifications" to read:

Basis of Payment: This work will be paid for at the contract unit price per foot for CONDUIT IN GROUND of the type and size specified, which price shall be payment in full for furnishing and installing the conduit either pushed, trenched, plowed, or directionally bored with fittings, complete. Trenching, backfilling and area restoration are incidental to the cost of this item.

HANDHOLES

Add the following to Section 814 of the "Standard Specifications":

All handholes shall be cast-in-place concrete, with a minimum inside dimension of 21-1/2 inches. Frames and lid openings shall match this dimension. The minimum wall thickness for heavy-duty hand holes shall be 12 inches. The handhole cover shall be labeled "Traffic Signals" with legible raised letters.

All conduits shall enter the handhole at a minimum depth of thirty (30) inches. However, the depth of conduit from detector loops located less than five (5) feet from the handhole may be less than thirty (30) inches.

All cable hooks shall be hot-dipped galvanized in accordance with AASHTO Specification M111. Hooks shall be a minimum of 3/8-inch diameter and extend into the handhole at least 6 inches. Hooks shall be placed a minimum of 12 inches below the lid, or lower if additional space is required. All cable hooks shall be secured with a retaining nut tightened against the handhole concrete.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

Revise Section 850 of the "Standard Specifications" to read:

The Contractor shall not be required to pay the energy charges for the operation of the existing traffic signal installation. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof.

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

This item shall include maintenance of all traffic signal equipment at the intersection, including cameras, emergency vehicle pre-emption equipment, master controllers, telephone service installations, communication cables and conduits to adjacent intersections.

The maintenance shall be according to Article 802.07 of the "Standard Specifications", and the following contained herein.

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of the emergency vehicle pre-emption system. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two (2) far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place at least 2 STOP signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. At approaches where a yellow flashing indication is necessary, as directed by the Engineer, STOP signs will not be required. The Contractor shall furnish and equip all their signal maintenance vehicles with a sufficient number of STOP signs as specified herein. The Contractor shall maintain a sufficient number of spare STOP signs in stock at all times to replace those which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24-hour telephone number for traffic signal maintenance. The Contractor, or his representative, shall be available on a 24-hour basis to respond to emergency calls by the Traffic Engineer or other parties.

Traffic signal equipment which is lost or not returned to the County for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

The Contractor shall respond to all emergency calls from the County or others within one hour after notification and provide immediate corrective action. When equipment has been damaged

or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the County. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the County's Traffic Signal Maintenance Contractor perform the maintenance work required. The County's Traffic Signal Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the County's Traffic Signal Maintenance Contractor to make reviews of the existing traffic signal installation that has been transferred to the Contractor for maintenance.

Basis of Payment. This work shall be paid for at the contract unit price each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

TRAFFIC-ACTUATED CONTROLLER

Add the following to Section 857 of the "Standard Specifications":

The controller shall be the latest model available that is compatible with "icons" software (NTCIP) or "Aries" software, currently in use by LCDOT, and shall be NEMA TS2 Type 1 compatible, unless specified otherwise on the plans. Controller software compatibility requirements are based upon the controller's location in the communication system, and shall be as shown on the plans. The controller shall be equipped with an Ethernet port and a removable data key to save the controller database. Only controllers supplied by approved District 1 closed-loop equipment manufacturers will be allowed. The controller shall be the most recent model and software version supplied by the manufacturer. The traffic signal controller shall provide features to inhibit simultaneous display of circular yellow and yellow arrow indications.

INTERSECTION MONITOR MODULE

This item shall consist of furnishing and installing an Intersection Monitor (IM) Module or Intersection Monitor (IM) Data Key manufactured by the Econolite Corporation as a replacement or addition to an existing traffic signal controller. This item is necessary at isolated (non-interconnected) traffic signals in order to monitor the intersection and controller operations. The IM module is required in ASC/2 controllers and the IM Data Key is required in ASC/3 controllers.

Basis of Payment: This item will be paid for at the contract unit price each for INTERSECTION MONITOR MODULE, which price shall be payment in full for furnishing and installing the module (or Data Key) complete with all necessary connections and equipment for proper operations.

MASTER CONTROLLER.

Revise Articles 860.02 and 860.03 of the "Standard Specifications" to read:

The Master Controller shall be the latest model available that is compatible with "Aries" software, currently in use by LCDOT. The minimum baud rate for fiber optic interconnected signal systems shall be 9600 bps.

Functional requirements in addition to those in Section 863 of the Standard Specification include:

The cabinet shall be provided with an outdoor network interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date. The interface shall be equipped with a standard Three-Electrode Heavy Duty Gas Tube Surge Arrestor. The cabinet shall be equipped with a US robotics modem, minimum 56K baud rate or approved equal.

FIBER OPTIC CABLE.

Revise Section 871 of the "Standard Specifications" to read:

This work shall consist of furnishing and installing Fiber Optical cable in conduit with all accessories and connectors according to Section 871 of the "Standard Specifications". The cable shall be of the type, size, and the number of fibers specified, with six fibers per tube.

The control cabinet distribution enclosure(s) shall be Corning Model WCH-02P, WCH-04P, or an approved equivalent, capable of accommodating the required number of fibers.

Both ends of each section of fiber optic cable being installed shall be spliced and/or terminated with approved mechanical connectors according to the following: This includes installing approved mechanical connectors on existing fibers that are being joined to the new fiber optic cable.

Multimode: The contractor shall coordinate with the equipment vendor, and shall terminate as many multimode fibers as are necessary to establish proper communications with signal controllers and/or video transmission equipment. In addition, the contractor shall terminate four unused multimode fibers, and shall label them "spare". All multimode terminations shall be ST compatible connectors with ceramic ferrules.

Singlemode: The contractor shall splice and/or terminate the number of singlemode fibers shown on the project plans, if any. Singlemode fiber terminations shall utilize pre-fabricated, factory-terminated pigtailed fusion spliced to bare fibers. All fusion splices shall be secured on Corning splice trays, Models M67-068, M67-110, or approved equivalent, capable of accommodating the required number of fusion splices. Unused fibers terminated according to

the plans shall be labeled "spare". All single-mode connectors shall be SC compatible, with ceramic ferrules.

Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of 13 feet of slack cable shall be provided for the controller cabinet. The controller cabinet slack cable shall be stored as directed by the Engineer.

Fiber Optic cable may be gel filled or have an approved water blocking tape.

Basis of Payment. The work shall be paid for at the contract unit price per foot for FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, 24 FIBER (12 MULTIMODE AND 12 SINGLEMODE) or FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, 36 FIBER (12 MULTIMODE AND 24 SINGLEMODE) for the cable in place, including distribution enclosure(s), all connectors, pigtails, splice trays, and the required number of terminations described above. Additional fiber terminations and/or splices required by the Engineer, (not included in this item), shall be paid for as TERMINATE FIBER IN CABINET and/or SPLICE FIBER IN CABINET.

TERMINATE FIBER IN CABINET.

This work shall consist of terminating existing or new fibers in field cabinets or buildings as indicated on the plans or as directed by the Engineer.

All multi-mode connectors shall be ST compatible, with ceramic ferrules. Singlemode fiber terminations shall utilize pre-fabricated, factory-terminated (SC compatible) pigtails fusion spliced to bare fibers. All fusion splices shall be secured on Corning splice trays, Models M67-068, M67-110, or approved equivalent, capable of accommodating the required number of fusion splices. Splice trays shall be incidental to TERMINATE FIBER IN CABINET, and shall not be paid for separately.

The quality of all fiber splices shall be verified by testing and documentation in accordance with Article 802.08(b) of the "Standard Specifications", to the satisfaction of the Engineer.

Basis of Payment: This work shall be paid for at the contract unit price each for each fiber terminated in a field cabinet or inside a building as TERMINATE FIBER IN CABINET, which will be payment in full for terminating each required multimode or singlemode fiber, including all connectors, pigtails, splice trays, testing and documentation. The splicing of pigtails for singlemode fibers is included in the cost of TERMINATE FIBER IN CABINET, and shall not be paid for separately. This pay item shall not be used to pay for fiber terminations and/or splices completed to meet the requirements of FIBER OPTIC CABLE IN CONDUIT.

SPLICE FIBER IN CABINET.

This work shall consist of fusion splicing singlemode fibers in a field cabinet or inside a building as indicated on the plans and as directed by the Engineer. Splices shall be secured in fiber optic splice trays within fiber optic distribution enclosures. The splice trays shall be Corning

Models M67-068, M67-110, or approved equivalent, capable of accommodating the required number of fusion splices. Splice trays shall be incidental to SPLICE FIBER IN CABINET and shall not be paid for separately. The quality of all fiber splices shall be verified by testing and documentation in accordance with Article 802.08(b) of the "Standard Specifications", to the satisfaction of the Engineer.

All optical fibers shall be spliced to provide continuous runs. Splices shall be allowed only in equipment cabinets except where otherwise shown on the Plans.

All splices shall be made using a fusion splicer that automatically positions the fibers using a system of light injection and detection. The Contractor shall provide all equipment and consumable supplies.

Basis of Payment: This work shall be paid for at the contract unit price each for SPLICE FIBER IN CABINET, which will be payment in full for all fusion splicing, fiber optic splice trays, testing and documentation, at a cabinet or building location shown on the plans and as directed by the Engineer. This pay item shall not be used to pay for fiber terminations and/or splices completed to meet the requirements of FIBER OPTIC CABLE IN CONDUIT.

FIBER OPTIC TRACER CABLE

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

In order to trace the fiber optic cable after installation, an XLP black insulated copper cable No. 14 shall be pulled in the same conduit as the fiber optic cable. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier-type terminal strip mounted on the side wall of the controller cabinet. The barrier-type terminal strip and tracer cable shall be clearly marked and identified. In order to minimize the number of splices required, the tracer cable shall incorporate maximum lengths of cable supplied by the manufacturer. Splicing of the tracer cable will be allowed at the handholes only. The tracer cable splice shall use a Western Union splice soldered with resin core flux. All exposed surfaces of the solder shall be smooth. Splices shall be soldered using a soldering iron. Blowtorches or other devices which oxidize copper cable shall not be allowed for soldering operations. The splice shall be covered with underwater grade WCSMW 30/100 heat shrink tube, minimum length four (4) inches and with a minimum one (1) inch coverage over the XLP insulation.

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

CONCRETE FOUNDATIONS

Add the following to Article 878.03 of the "Standard Specifications":

All anchor bolts shall be according to Article 1006.09, except all anchor bolts shall be hot dipped galvanized the full length of the anchor bolt including the hook.

Concrete Foundations, Type A for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the "District 1 Standards Traffic Signal Design Details". All Type A foundations shall be a minimum depth of forty-eight (48) inches.

Concrete Foundations, Type C (Special) for Traffic Signal Cabinets with Uninterruptible Power Supply (UPS / Battery Back-Up) cabinet installations shall be constructed a minimum of forty-eight (48) inches long by thirty-one (31) inches wide, and shall have a minimum depth of forty-eight (48) inches. An integral concrete pad foundation for the UPS cabinet shall be constructed a minimum of thirty-one (31) inches long by twenty (20) inches wide by ten (10) inches deep. The UPS cabinet pad foundation shall be integral to the side of the signal cabinet foundation, and shall be constructed on the same side as the signal cabinet power panel. An L-Shaped concrete apron shall be constructed along the entire front of the signal cabinet foundation, the entire side of the UPS cabinet foundation, and the entire front of the UPS cabinet foundation. This concrete apron shall be a minimum of thirty-six (36) inches wide by four (4) inches deep. Anchor bolts shall be provided and spaced according to the cabinet manufacturer's specifications.

Concrete Foundations, Type D for Traffic Signal Cabinets shall be constructed a minimum of forty-eight (48) inches long by thirty-one (31) inches wide, and shall have a minimum depth of forty-eight (48) inches. The concrete apron at the signal cabinet shall be constructed a minimum of thirty-six (36) inches wide by forty-eight (48) inches long by four (4) inches deep. Anchor bolts shall be provided and spaced according to the cabinet manufacturer's specifications.

Concrete Foundations, Type E for Mast Arm and Combination Mast Arm Poles shall meet the following requirements:

MAST ARM SIZE	DIAMETER OF FOUNDATION	DESIGN DEPTH OF FOUNDATION
14'-38'	30"	15'
> or = 40'	36"	15'
COMBINATION MAST ARMS	36"	15'

The Resident Engineer shall approve the foundation excavation prior to placing any concrete. Foundations for combination mast arm poles shall provide an extra 2½" duct.

DETECTOR LOOP

Revise Section 886 of the "Standard Specifications" to read:

A minimum of seven (7) working days prior to the Contractor cutting loops, the Engineer shall mark the location of the proposed loops and contact the Traffic Engineer (847) 377-7400 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the placement of the concrete surface, using the same notification process as above.

Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details". Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement in order to minimize the length of the saw cut (homerun), unless otherwise directed by the Engineer or as shown on the plans. Polyethylene unit duct shall be used for detector loop raceways to the handholes. Unit duct shall meet the requirements of NEC Article 343. All unit duct used for traffic signal loop detector runs shall be incidental to the price of the detector loop.

The detector loop cable insulation shall be labeled with the cable specifications. Each detector loop lead-in wire shall be labeled in the handhole using a Panduit 250W175C waterproof tag or approved equal. The tag will be secured to each wire with nylon ties.

The resistance to ground for new detector loops shall be a minimum of 500 megaohms under any conditions of weather or moisture. Inductance shall be more than 50 microhenries and less than 700 microhenries. Quality readings shall be more than 5. All new or replacement lead-in cables shall be connected to the loop interface panel using appropriate crimp-on, spade type connectors.

Detector loop measurements shall include the saw cut and the length of the loop lead-in to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be incidental to the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be incidental to detector loop quantities.

The location of each dive hole shall be marked on the face of the curb, the edge of pavement or the handhole, with a saw cut 1/4 inch deep by 4 inches long.

- (a) Type I: Each detector loop, which is to be installed in new asphalt pavement, must be placed in the pavement below the surface course. Each detector loop, which is to be installed in an existing asphalt or concrete pavement, shall be located to miss existing pavement cracks, if possible. Loop sealant used to seal new loops shall consist of a two-component thixotropic, chemically-cured polyurethane. The sealant will be Chemque Q-Seal 295, Perol Elastic Cement A/C Grade or an approved equal. The sealant shall be installed 1/8 inch below the pavement surface. Excess sealant, which accumulates on the surface, shall be removed immediately. Loop sealant used to reseal existing loops shall be composed of an asphalt-based compound. The sealant will be Doseal 230 or an approved equal.

- (b) Preformed. This work shall consist of furnishing and installing a rubberized heat resistant preformed traffic signal loop in accordance with the "Standard Specifications", except for the following:

Preformed detector loops shall be installed in new pavement constructed of portland cement concrete and shall be placed in the substrate. Loop lead-ins shall be protected to the satisfaction of the Engineer.

Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole.

Preformed detector loops shall be factory assembled. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 1 1/16-inch outside diameter (minimum), 3/8-inch inside diameter (minimum) Class A oil resistant synthetic cord-reinforced hydraulic hose with 250 psi internal pressure rating. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy-duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire.

To minimize the length of time that a signal operates without vehicle detection, detector loops for active traffic signal installations shall be installed in a timely manner as follows:

If in the opinion of the Engineer construction conditions are suitable for loop installation(s), the Engineer shall notify the Contractor to proceed. The detector loops shall be installed and fully operational within fourteen (14) calendar days following notification to proceed by the Engineer. This 14-day period shall be in effect throughout the entire year, including the off season, regardless of the Contractor's working day status. Failure by the Contractor to complete the loop installation(s) within the specified timeframe shall result in liquidated damages in the amount of \$500.00 per calendar day, per occurrence.

Basis of Payment. This work shall be paid for at the contract unit price per foot for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall

be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

EMERGENCY VEHICLE PRIORITY SYSTEM

Revise Section 887 of the "Standard Specifications" to read:

If not marked in the Contract plans, it shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be of the latest type manufactured and must be completely compatible with all components of signal equipment currently in use by the County.

All new installations shall be equipped with confirmation beacons as shown on the District 1 "Standard Traffic Signal Design Details". The confirmation beacon shall consist of a 150 watt Par 38 flood lamp for each direction of preemption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent chafing of wires. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the preemption signal. The preemption movement shall be signaled by a flashing indication at the rate specified by Section 4K.01 of "MUTCD". The stopped preempted movements shall be signaled by a continuous indication.

All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002 hz, or as otherwise required by the Traffic Engineer, and provide compatible operation with other light systems currently being operated in the County.

Basis of Payment. The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be incidental to the cost of the Light Detector. The light detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

TEMPORARY TRAFFIC SIGNAL INSTALLATION

Add the following to Section 890 of the "Standard Specifications":

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. Also, an approved equipment vendor shall assemble and test a temporary railroad traffic signal cabinet. (Refer to the "Inspection of Electrical Systems" specification) A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

Only controllers compatible with "icons" software (NTCIP) or "Aries" software, currently in use by LCDOT, will be approved for use at temporary signal locations. Controller software compatibility requirements are based upon the controller's location in the communication system, and shall be as shown on the plans. All controllers used for temporary traffic signals shall be fully-actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software, installed in NEMA TS-1 or TS-2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary bridge signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the "Standard Specifications" with regards to internal time base coordination and preemption.

All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4-inch diameter holes to run the electric cables through. The 4-inch diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

The stand which supports the temporary traffic signal cabinet shall be constructed of lumber and plywood that has been pressure-treated to protect against rot, mold, and insects.

Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the "Standard Specifications" and the District 1 Traffic Signal Specifications for "Grounding of Traffic Signal Systems".

All traffic signal head sections shall be twelve (12) inches. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Traffic Engineer. The Contractor shall furnish enough cable slack to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.

For temporary traffic signal installations within closed loop system(s), the controller shall be compatible with the existing traffic signal system master controller. The existing system interconnect is to be maintained as part of the Temporary Traffic Signal Installation specified on the plan. The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. Refer to the INTERRUPTION OF COMMUNICATION requirements described earlier. All labor and equipment required to install and maintain the existing interconnect shall be incidental to the item TEMPORARY TRAFFIC SIGNAL INSTALLATION.

All emergency vehicle priority equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the

Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle priority equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of signal equipment currently in use by the County. All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002, or as otherwise required by the Engineer. All labor and material required to install and maintain the Emergency Vehicle Priority system shall be incidental to the item Temporary Traffic Signal Installation.

All temporary traffic signal installations shall have approved vehicular detection and approved pedestrian push buttons installed as shown on the plans or as directed by the Engineer. Vehicular detection shall be provided by video sensors, microwave sensors, or detector loops, and shall be paid for separately. The Contractor shall install, wire, and adjust the alignment of the vehicular detection system in accordance with the manufacturer's recommendations and requirements. When directed by the Engineer, this item shall also include operational items such as: controller database changes, timing changes, activation/deactivation of phases, relocation of signal heads, relocation / reconfiguration of detectors (microwave and/or video), and bagging / unbagging signal heads. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up the vehicular detection system. On temporary traffic signal installations with detector loops, polyethylene unit duct shall be used for detector loop raceways from the saw-cut to 10 feet up the wood pole, unless otherwise shown on the plans. Unit duct shall meet the requirements of NEC Article 343. All unit duct used for traffic signal loop detector runs shall be incidental to the price of the detector loop.

All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assemblies and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.

The Contractor shall not be required to pay the energy charges for the operation of the existing traffic signal installation. If the installation replaces an existing signal, the Contractor shall not be required to pay the energy charges for the operation of the temporary traffic signal. The Contractor shall pay the energy charges for all other temporary traffic signal installations.

The Contractor shall furnish all control equipment for the temporary traffic signals(s) unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be of the same manufacturer and model number with current software installed.

Maintenance shall meet the requirements of the "Standard Specifications" and District 1 Specifications for "Maintenance of Existing Traffic Signal Installation". Maintenance of temporary signals and of the existing signals shall be incidental to the cost of this item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal

installation as soon as he begins any physical work on any portion of the project. Maintenance responsibility of the existing signals shall be incidental to the item TEMPORARY TRAFFIC SIGNAL INSTALLATION. In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this contract, the Contractor shall contact the Traffic Engineer (847) 377-7400 to request an inspection of the installation(s).

Temporary Traffic Signals for bridge projects shall follow the State Standards, "Standard Specifications", District 1 Traffic Signal Specifications, and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the above requirements for TEMPORARY TRAFFIC SIGNAL INSTALLATION. In addition, all electric cable shall be aerially suspended, at a minimum height of 18 feet, on temporary wood poles (Class 5 or better) of 45 feet minimum height. The signal heads shall be span-wire-mounted or bracket-mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole or as directed by the Engineer. All approaches for temporary traffic signals for bridge projects shall have microwave vehicle sensors or video vehicle detection, as shown on the plans or as approved by the Engineer.

Basis of Payment: This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION which shall include all costs for the installation, modification, maintenance, operational items, complete removal of the temporary traffic signal., and all material required to complete the work.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

Add the following to Article 895.05 of the "Standard Specifications":

The traffic signal equipment, which is to be removed and will become the property of the Contractor, shall be disposed of by the Contractor outside the right-of-way at his/her own expense.

The Contractor shall safely store and arrange for delivery of all equipment that will remain the property of LCDOT. The Contractor shall deliver, unload and stack the equipment at the owner's facility, as directed by the Engineer, within 30 days of removing it from the traffic signal installation. The Contractor shall provide three (3) copies of a list of equipment that is to remain the property of LCDOT including model and serial numbers where applicable. The Contractor shall also provide a copy of the contract plan or special provisions showing the quantities and type of equipment to be delivered. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. The Contractor shall be responsible for the condition of the traffic signal equipment from the time of removal until the acceptance of a receipt written by the owner indicating that the items have been returned in good condition.

Traffic signal equipment which is lost or not returned to the County for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

PEDESTRIAN PUSH-BUTTON

Replace Article 1074.02 of the "Standard Specifications" with the following:

Pedestrian Push-button assembly shall be ADA compliant, 3-inch round style, highly vandal resistant, non-moving, pressure activated, with a solid-state Piezo switch actuator that cannot be stuck in an "on" or constant call position. A momentary (non-latching) red LED and audible tone shall be provided to confirm an actuation. The housing, or bezel, of the assembly shall be solid aluminum and powder coated yellow. The button shall be stainless steel or nickel-plated aluminum.

Pedestrian Push-button assembly shall be a Campbell Company 4 EVR 120, a Polara Bulldog BDLM2-Y, or approved equivalent.

The pedestrian station shall be a Campbell Company 57H Station, or approved equivalent. The pedestrian station shall be powder coated black to match ornamental (Special) mast arm poles and signal posts. The pedestrian station shall be unpainted to match unpainted galvanized mast arm poles and signal posts.

The station shall be installed with a 5-inch by 7³/₄-inch Campbell Company vandal resistant sign, according to the following: Where pedestrian signal heads are used, pedestrian signs shall provide the "Push Button for" legend, with the Walking Man symbol and arrow (R10-4b). Where no pedestrian signal heads are used, pedestrian signs shall provide the "Push Button for Green Light" legend with arrow (R10-3 with arrow), or as specified on the plans.

Refer to STEEL MAST ARM ASSEMBLY AND POLE (SPECIAL), STEEL COMBINATION MAST ARM ASSEMBLY AND POLE (SPECIAL), and/or TRAFFIC SIGNAL POST (SPECIAL) for additional installation requirements.

Basis of Payment: This work shall be paid for at the contract unit price each for PEDESTRIAN PUSH BUTTON. The unit price shall include furnishing and installing the pedestrian station, push button, sign, and all necessary equipment and connections for proper operations. Electric cable in conduit shall be paid for separately.

Signal modification projects may require both new pedestrian buttons (described above) and existing pedestrian buttons remaining in operation. The County desires to have all buttons at a particular traffic signal be similar in appearance and operation. The contractor should advise the Traffic Engineer if a different button should be installed in order to match the existing ones.

CONTROLLER CABINET AND PERIPHERAL EQUIPMENT.

Add the following to Article 1074.03 of the "Standard Specifications":

Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian, and four (4) phases

of overlap operation. Individual load switches shall be provided for each vehicle, pedestrian, and right turn overlap phase.

- Cabinets – Controller cabinets shall have a footprint of approximately 44 inches wide by 26 inches deep. Type IV cabinets shall be 65 inches high, and shall provide a third shelf for mounting additional equipment. Type V cabinets shall be 77 inches high. Cabinets shall be fabricated of 1/8" thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- Cabinet Doors – Provide front and rear doors of NEMA type 3R construction with cellular neoprene gasket that is rain tight. Door hinges shall be continuous 14-gauge stainless steel and shall be secured with 1/4-20 stainless steel carriage bolts.
- Controller Harness – Provide a TS2 Type 2 "A" harness in addition to the TS2 Type 1 harness.
- Surge Protection – EDCO Model SHA-1250 with failure indicator, or approved equivalent.
- BIU – Containment screw required.
- Switch Guards – All switches shall be guarded.
- Heating – One (1) 200-watt, thermostatically-controlled, Hoffman electric heater, or approved equivalent.
- Plan & Wiring Diagrams – 12" x 16" moisture sealed container attached to door.
- Detector Racks –
 - Configuration #1, Half-size rack, to be used when few, if any, detector loops are required. Fully wired to support one BIU, eight channels of vehicle detection, and four channels of Emergency Vehicle Preemption (EVP).
 - Configuration #2, Full-size rack, to be used when the required detector loops cannot be accommodated by the half-size rack. Fully wired to support one BIU, sixteen channels of vehicle detection, and four channels of EVP.
- Field Wiring Labels – All field wiring shall be labeled.
- Field Wiring Termination – Approved channel lugs required.
- Power Supply – Provide a nonconductive shield.
- Circuit Breaker – The signal circuit breaker shall be sized for the proposed load, but shall not be rated less than thirty (30) amps.
- Police Door – Provide wiring and termination for plug-in manual phase advance switch.
- Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or approved equivalent.

FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL

This item shall comply with Sections 857 and 863 of the "Standard Specifications" for Road and Bridge Construction, and shall also comply with the following requirements:

The controller shall meet the requirements for NEMA-TS2 standards for a Type 1 Cabinet.

The controller shall be the latest model available that is compatible with "icons" software (NTCIP) or "Aries" software, currently in use by LCDOT. Controller software compatibility requirements are based upon the controller's location in the communication system, and shall be as shown on the plans. The controller shall be equipped with an Ethernet port and a removable data key to save the controller database.

The cabinet shall be 65 inches high, and shall provide a third shelf for mounting additional equipment. Also, the cabinet shall have front and rear doors of NEMA type 3R construction with cellular neoprene gasket that is rain tight. Door hinges shall be continuous 14-gauge stainless steel and shall be secured with ¼-20 stainless steel carriage bolts. Standard equipment shall include a three-point locking system that secures the door at the top, bottom and center. A corbin lock with two keys shall also be furnished. The front and rear doors shall be equipped with a two-position doorstop, one at 90° and one at 120°.

Basis of Payment: This item will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL which price shall be payment in full for furnishing and installing the cabinet and controller, complete with necessary connections and equipment for proper operation, at a location designated by the Engineer. If required, the transceiver shall be considered incidental to the cost of this item. Removal of an existing controller, and its return to the County, shall also be incidental to the cost of this item.

TRAFFIC ACTUATED CONTROLLER AND CABINET INTERCONNECTED WITH RAILROADS

Add the following to Article 1074.03 of the "Standard Specifications" to read:

Cabinets shall be NEMA TS2 Type 1 design, meeting the requirements of CONTROLLER CABINET AND PERIPHERAL EQUIPMENT and FULL ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL. In addition, the following shall apply to railroad interconnected equipment:

Only an approved traffic signal equipment supplier shall assemble railroad interconnected controllers and cabinets. The equipment shall be tested and approved in the equipment supplier's District 1 approved facility prior to field inspection.

The pedestrian clearance during railroad preemption will be limited to a flashing "Don't Walk" interval, equal in length to the vehicle yellow clearance interval, and shall time concurrently with the vehicle yellow clearance.

The terminal facility shall be wired so as to provide supervision of all essential pre-emption components. This wiring shall cause the facility to transfer to or remain in flashing operation in the event any critical component is missing, not connected or failed. Interface relays shall be wired so as to be in the energized state during normal (non-pre-empt) operation. Failure of a relay coil shall open the supervision loop and cause the intersection to transfer to flashing

operation. Each critical element such as controller harnesses and interface relays shall be wired to form a series loop which must be complete for normal operation.

A method of supervising the 6-conductor cable interconnecting the traffic and railroad facilities shall provide flashing operation during failed cable conditions. Upon detection of a failed railroad interconnect the controller shall provide one (1) track clearance green interval and shall enter flashing operation at end of track clearance yellow interval. Such flashing operation must be manually reset. The supervision circuit shall, within reason, be capable of detecting failure of the supervision circuit components themselves, and shall provide fail-safe operation immediately upon detecting any failure.

The interconnect to the railroad facility shall be such that demand for pre-emption begins when the railroad flashers begin to flash and ends when railroad gates begin to rise.

An IDOT approved method of controller security shall be implemented to assure data integrity and to preclude changes to critical data. The method shall include a means for the controller to continuously verify the controller/cabinet CRC (cycle redundancy check) match. The CRC will be developed based on preemptor entries, unit data (including phases in use, sequence and ring structure, etc.), overlap assignment and timing, firmware version, and any special memory content necessary for proper operation. Where data is stored in a data module, a spare data module shall be provided to the Engineer.

The controller will provide for immediate track clearance green re-service upon receipt of each subsequent preempt demand. During the re-service all normal vehicle clearance intervals, including red revert, will be respected.

The cabinets shall be equipped with a labeled test switch for the railroad interconnected preemption line which will place a call in the controller's railroad preemption phase and also will acknowledge power to the interconnect line. The switch shall automatically return to normal position upon release.

UNINTERRUPTIBLE POWER SUPPLY (UPS)

This specification sets forth the minimum requirements for an uninterruptible power system with battery back-up, for a traffic signal. The system is comprised of the UPS or Inverter unit, bypass switch, batteries, cabinet, and related wiring harnesses.

UPS (Inverter Unit)

The UPS shall produce a fully regenerated, conditioned, regulated pure sine wave 120-volt AC (+/- 4%) power output in all operational modes to all traffic control equipment.

The inverter unit shall be line-interactive. The electronic control circuit shall constantly sample the AC input. The UPS shall provide a steady 120v AC from an input source as low as 85 volts and as high as 135volts AC before using the inverter / battery to provide 120 volts to the load.

The switching to battery/inverter will occur in less than 4 milliseconds after utility voltage fluctuations or deviations travel outside preset parameters. The inverter's output shall be pure clean sine wave with an efficiency of 94% at 100% load. The inverter circuit shall be capable of high duty cycle operation.

The UPS shall be rated at Unity power factor (1000 watts) for continuous operation. The UPS shall be capable of providing an overload output rating of 150% of rated output for 10 minutes at Unity power factor (1500 watts).

In case of UPS failure and or battery depletion, the UPS will ensure upon the return of utility power that the utility power will be failsafe-bypassed to the traffic signal controller. An external manual bypass shall provide a secondary redundant path for the utility power if the internal UPS bypass fails. The UPS shall be capable of operating in a bypass mode until the depleted batteries have recharged to a predetermined state, and then resume full on-line operation. The UPS shall be capable of hot swapping the batteries or battery bank, without shutting down the UPS

The UPS Front Panel shall have the following: A/C Input / Output circular connector, battery connector, multi-function dial timer, LCD display for counting power interruptions, real-time voltage meter and amp/watt meter, circular connector containing dry contact closure for UPS Fail, On Battery, Flash, Low Battery, and Alarm. The front panel shall also have LED indicators for AC/Battery power present, UPS Fault, Overload, Low Battery, and Ground Fault.

The UPS shall interface with the traffic signal controller or master controller to provide the "On Battery" alarm to the Lake County Division of Transportation facilities over the normal fiber optic/dial-up communication channels. The "On Battery" alarm must be wired to the Alarm 2 Function of the traffic signal controller back panel. The connector shall be rated for 150 amps DC.

Bypass Switch

The Bypass Switch shall consist of one main manual switch, which provides a means of placing the UPS into a bypassed position without interruption of the power to the intersection. A second switch provides a means of isolating the AC utility from the UPS. This provides a means of testing the UPS/Battery back-up by turning off the AC utility to the UPS with the UPS in normal operation. Both of these switches shall be rated 20 amps at 600 volts.

The Bypass Switch AC connections consist of two circular locking Input/Output connectors, phased to the UPS AC harness. This switch will include an alternate-source input connection, which provides a means of connecting a generator or alternate utility source. The Bypass Switch case shall be constructed of aluminum.

Batteries

This system shall be comprised of four (4) or six (6) 12-volt batteries, as required, to provide a minimum two (2) hours of normal signal operation followed by a minimum four (4) hours of flashing red operation. Non-essential items such as streetlights, illuminated street name signs, cabinet lamps and fans, EVPS confirmation beacons, and video monitors do not need to be connected to the UPS. Batteries shall be Optima Spiral Cell, blue top, deep cycle batteries, with a 55 Ah capacity, or an approved equal. The battery cable shall consist of a quick release connector rated at 150 amps. The connector shall have recessed pins and be polarized to prevent accidental cross connecting of the battery string to the UPS.

Cabinet

The cabinet shall be a California Chassis aluminum cabinet, Part Number FCU104013, with a natural aluminum mill finish, or approved equal.

The external cabinet dimensions shall be 41 inches tall by 25 inches wide by 16 inches deep, excluding the door. The cabinet shall house all batteries, the UPS, the Bypass Switch, and the wiring harnesses.

When being installed at an existing traffic signal cabinet, the cabinet for the UPS shall rest on the traffic signal cabinet foundation and shall also be secured to the right side of the traffic signal cabinet. For new traffic signal cabinets, the foundation and UPS cabinet installation shall be according to IDOT Standard 878001-04.

The cabinet shall provide an external connection for an AC generator to power the signals, if necessary, during an extended utility power outage. The external connection shall be a NEMA Style 5-15 male flanged receptacle, and shall be securely covered by a screw-on aluminum plate with a rubber gasket.

The UPS shall be equipped with an integrated safety ("Tip") switch that will interrupt inverter output power in the event of a cabinet knockdown. The safety switch may be either internal to the inverter unit, or mounted inside the UPS cabinet. The safety switch shall be designed to interrupt output power in the event that the inverter is tilted more than twenty degrees on any axis. The switch shall be mechanically latching to ensure that power is not automatically restored to the UPS until the system is reset.

A blue LED indicator light shall be mounted on the side of the UPS cabinet facing traffic and shall illuminate to indicate when the utility power has been disrupted and the UPS is in operation. The light shall be a minimum 1" diameter, and bright enough to be visible from the driving lanes in the daylight.

Basis of Payment: This item shall be paid for at the contract unit price, each, for furnishing and installing the UNINTERRUPTIBLE POWER SUPPLY (UPS). The price shall include the UPS/Inverter unit, Bypass Switch, Batteries, Cabinet, wiring harnesses, and all associated equipment and materials necessary for proper operation.

CABINET NEATNESS

The Contractor shall assure that all wiring and peripheral equipment in any new traffic signal cabinet is in a neat and orderly fashion that is acceptable to the Engineer. This applies to controller cabinets, master cabinets, railroad cabinets, communication cabinets, electrical service cabinets, or any other new cabinet called for in the project plans.

All conduit entrances into the cabinet shall be sealed with a pliable waterproof material. Electrical cables inside the cabinet shall be neatly trained along the base and back of the cabinet. Each conductor shall be connected individually to the proper terminal, and the spare conductors shall be bound into a neat bundle. All cables, including those for signals, vehicle detection, pushbuttons, emergency vehicle preemption, video transmission, and communication shall be neatly arranged and bundled within the cabinet to the satisfaction of the Engineer. Each cable shall be marked with an identification number which corresponds to the number and description on the cabinet cable log.

In the case of an existing cabinet that is being modernized or modified, the new cables being installed shall be trained, bundled and labeled to the satisfaction of the Engineer. When working inside an existing cabinet, the Contractor shall minimize disturbance to existing cables and cabinet wiring. Any existing cables and cabinet wiring disturbed by the Contractor shall be re-trained, bundled, and/or labeled to the satisfaction of the Engineer.

The County shall not accept maintenance of the traffic signal installations until the requirements of this specification are satisfied. The cost for this work shall be considered incidental to the cost of the associated pay item.

VENDOR REPRESENTATION

Under this provision, the Engineer reserves the right to request the equipment vendor be present at the activation of new traffic equipment. Equipment covered under this provision includes signal heads, cabinets, controllers, amplifiers, preemption, video detection/monitoring, communication/transmission, fiber-optic/telemetry, radio, microwave, infra-red, illuminated signs, streetlights, push buttons, lighted crosswalks, uninterruptible power supplies, and any other new equipment being installed and activated.

This provision is in addition to the requirement contained herein that the Contractor provide a representative from the control equipment vendor to attend the traffic signal inspection for both permanent and temporary traffic signal "turn-ons".

Any costs associated with equipment vendor representation shall not be paid for separately, but shall be incidental to the cost of the associated traffic equipment being activated. Any unforeseen costs incurred by the Contractor to provide this representation shall not be the responsibility of the County.

ELECTRIC CABLE.

Delete "or stranded, and No. 12 or" from the last sentence of Article 1076.04 (a) of the "Standard Specifications".

The electric service cable shall have an XLP jacket. All other cable jackets shall be polyvinyl chloride, meeting the requirements of IMSA 19-1 or IMSA 20-1. The jacket color for signal cable shall be black. The jacket color for lead-in and communications cable shall be gray. All cabling between the signal cabinet and the signal heads shall be solid copper, not multi-stranded. Heat shrink splices shall be used according to the District 1 "Standard Traffic Signal Design Details".

STEEL MAST ARM ASSEMBLY AND POLE
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE

Add the following to Article 1077.03 of the "Standard Specifications":

The poles for all mast arms and combination mast arms, up to and including forty (40) feet in length, shall be manufactured with an eighteen (18)-inch bolt circle at the foundation base plate. The poles for all mast arms and combination mast arms forty-two (42) feet long and longer shall be manufactured with a twenty-one (21)-inch bolt circle.

Traffic signal mast arms shall be one-piece construction, unless otherwise approved by the Engineer. All mast arms and poles shall be galvanized.

Luminaire arms shall be galvanized steel, truss style, clamp-on, and a minimum fifteen (15) feet in length. Luminaires shall be "cobra head" style, with a minimum mounting height of forty (40) feet.

The base of the mast arm pole shall be protected by a Component Products bolt-on galvanized metal shroud or an approved equal, in lieu of stainless steel screening.

STEEL MAST ARM ASSEMBLY AND POLE (SPECIAL).
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE (SPECIAL)

Add the following to Article 1077.03 of the "Standard Specifications":

The poles for all mast arms and combination mast arms, up to and including forty (40) feet in length, shall be manufactured with an eighteen (18)-inch bolt circle at the foundation base plate. The poles for all mast arms and combination mast arms forty-two (42) feet long and longer shall be manufactured with a twenty-one (21)-inch bolt circle.

Ornamental bases for mast arm poles shall be either cast iron or cast aluminum. All mast arms, mast arm poles, luminaire arms, cast iron bases, and any exposed steel hardware shall be hot-dipped galvanized, and then painted black by the supplier/manufacturer. Cast aluminum bases shall also be painted black by the supplier/manufacturer.

All ornamental bases shall fit tightly around the poles, with little or no gap at the top of the ornamental base. Two-piece ornamental bases shall fit together tightly, with little or no gap between the two pieces. All bases shall fit securely on top of the foundation, and shall not easily move or wobble.

Pedestrian pushbutton stations shall be mounted to ornamental mast arm bases according to the following: The top and bottom of the station shall be secured by drilling, tapping, and installing a 3/8-inch stainless steel threaded bolt, lock washer, and hex nut. Do not use self-tapping screws. The pushbutton station shall be plumb. Spacers made of 3/4-inch aluminum conduit shall be installed behind the station.

Luminaire arms shall be steel, truss style, clamp-on, and a minimum fifteen (15) feet in length. Luminaires shall be "cobra head" style and painted black by the supplier/manufacturer. Minimum mounting height for luminaires shall be forty (40) feet.

All (Special) steel mast arm assemblies and poles (including combination mast arm assemblies) shall be manufactured and/or supplied by Sternberg Vintage Lighting, Valmont, Beacon or approved equal, according to the following:

- Round, tapered, 16-sharp fluted pole.
- Round, tapered, smooth, standard-curved, flange-connected, traffic signal mast arm
- Hamilton Series (6400D) ornamental base (Sternberg).
- MainStreet Series (200SJ) ornamental base (Beacon).

TRAFFIC SIGNAL POST

Add the following to Article 1077.01 (d) of the "Standard Specifications":

Posts and bases shall be steel and hot-dipped galvanized.

TRAFFIC SIGNAL POST (SPECIAL)

Add the following to Article 1077.01 of the "Standard Specifications":

All Traffic Signal Posts (Special) shall be sixteen (16) feet in height, extruded aluminum, unless otherwise specified on the plans. All ornamental bases for Traffic Signal Post (Special) shall be cast aluminum.

All Traffic Signal Posts (Special) and associated ornamental bases shall be assembled and painted black at the factory. All exposed steel hardware shall be hot-dipped galvanized, and then painted black.

Pedestrian pushbutton stations shall be mounted to ornamental signal posts according to the following: The top and bottom of the station shall be secured by drilling, tapping, and installing a 3/8-inch stainless steel threaded bolt. Do not use self-tapping screws. The pushbutton

station shall be plumb. Spacers made of 3/4-inch aluminum conduit shall be installed behind the station.

All ornamental bases shall fit tightly around the poles, with little or no gap at the top of the ornamental base. Two-piece ornamental bases shall fit together tightly, with little or no gap between the two pieces. All bases shall fit securely on top of the foundation, and shall not easily move or wobble.

All Traffic Signal Posts (Special) and associated ornamental bases shall be manufactured and/or supplied by Sternberg Vintage Lighting, Valmont, Beacon, or approved equal, according to the following:

- Round, straight (non-tapered), five (5)-inch diameter, 12-flat fluted post.
- A ball center cap for the top of the post, instead of a tenon.
- Hamilton Series (5400D) ornamental base, approximately forty-three (43) inches tall. (Sternberg)
- MainStreet Series (100SJ) ornamental base, approximately forty-three (43) inches tall. (Beacon)

INDUCTIVE LOOP DETECTOR

Add the following to Article 1079.01 of the "Standard Specifications":

All new inductive loop detectors (amplifiers) shall have a liquid crystal display to view all detector operation, loop diagnostics, loop frequency, inductance, change of inductance readings, and programmable features. When rack space allows, new amplifiers shall be rack-mounted. When the detector rack is full, shelf-mounted amplifiers may be allowed. Shelf-mounted amplifiers shall utilize multi channels to minimize the required shelf space.

ILLUMINATED SIGN, LED

This work shall consist of furnishing and installing an illuminated sign with light emitting diodes.

The light emitting diode (LED) blank out signs shall be manufactured by National Sign & Signal Company, or an approved equal and consist of a weatherproof housing and door, LEDs and transformers.

The LED blank out sign shall provide the correct symbol and color for "NO LEFT TURN" OR "NO RIGHT TURN" indicated in accordance with the requirements of the "Manual on Uniform Traffic Control Devices". The message shall be formed by rows of LEDs.

The message shall be clearly legible and highly visible, under any lighting conditions, within a 15-degree cone centered about the optic axis. The sign face shall be 24 inches by 24 inches. The sign face shall be completely illegible when not illuminated. No symbol shall be seen under any ambient light condition when not illuminated.

All LEDs shall be T-1 ¾ and have an expected lamplife of 100,000 hours. Operating wavelengths will be Red-626nm, Amber-590nm, and Bluish/Green-505nm. Transformers shall be rated for the line voltage with Class A insulation and weatherproofing. The sign shall be designed for operation over a range of temperatures from -35F to +165 F (-37C to +75C).

The LED module shall include the message plate, high intensity LEDs and LED drive electronics. Door panels shall be flat black and electrical connections shall be made via barrier-type terminal strip. All fasteners and hardware shall be corrosion resistant stainless steel.

The housing shall be constructed of extruded aluminum. All corners and seams shall be heli-arc welded to provide a weatherproof seal around the entire case. Hinges shall be continuous full-length stainless steel. Signs shall have stainless steel hardware and provide tool free access to the interior of the sign. Doors shall be 0.125-inch thick extruded aluminum with a 3/16-inch x 1-inch neoprene gasket and sun hood. The sign face shall have a polycarbonate, matte clear, lexan face plate. Drainage shall be provided by four drain holes at the corners of the housing. The finish on the sign housing shall include two coats of exterior enamel applied after the surface is acid-etched and primed with zinc-chromate primer.

Mounting hardware shall be black polycarbonate or galvanized steel and similar to mounting Signal Head hardware and brackets specified herein.

Basis of Payment: This work shall be paid for at the unit price each for ILLUMINATED SIGN, LED.

LED INTERNALLY ILLUMINATED STREET NAME SIGN

This work shall consist of furnishing a street name sign which is internally illuminated with light emitting diodes, and installing the sign on a traffic signal mast arm or span wire.

The sign shall be manufactured by Carmanah Technologies (Model R409), or Traffic Signs, Inc., (with a GELcore LED Light Engine), or approved equivalent.

The sign shall display the designated street name clearly and legibly in the daylight hours without being energized. When energized, the entire surface of the sign panel shall be evenly illuminated, and the light transmission factor shall provide a letter to background brightness ratio adequate for nighttime legibility. The sign face/panels shall be 0.125-inch translucent, high-impact, UV resistant polycarbonate. All surfaces shall be free of blemishes in the plastics or coating that might impair the service or detract from the general appearance of the sign. The sign frame shall be painted black with a durable powder coated process.

Street name signs shall have double-sided message, with the following exception: At locations where one side of a particular sign will not be visible to vehicular traffic, such as a "T" intersection, that sign shall be single-sided. The street name/legend and border shall be as shown on the plans. The font shall be ClearviewHwy 5-W.

Both sides of each sign shall have legend and border made of 3M/Scotchlite Series 4090T translucent white diamond grade sheeting (DG³T), overlaid by 3M/Scotchlite Series 1177 transparent green, electronically cuttable film, or approved equivalent.

The sign shall be mounted on the mast arm three feet to the right of the furthest right signal head, as viewed by the approaching traffic.

Each sign shall be activated by a photocell mounted/installed on the side of the sign frame

The Manufacturer/Vendor shall supply shop drawings of the fixtures, sign, sign message and mounting hardware for approval. All hardware used to install the sign shall be in accordance with the manufacturer's recommendations.

Basis of Payment: This work will be paid for at the contract unit price each for furnishing and installing LED INTERNALLY ILLUMINATED STREET NAME SIGN, of the size specified, complete in place, including photocell and all related hardware, wiring, and connections required for proper operations.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

This work shall consist of providing a revised Signal Coordination and Timing (SCAT) Report and implementing optimized timings to an existing previously optimized closed loop traffic signal system. This work is required due to the addition of a signalized intersection to an existing system or a modification of an existing signalized intersection which affects the quality of an existing system's operation. MAINTENANCE OF THE SUBJECT INTERSECTION SHALL NOT BE TRANSFERRED TO THE COUNTY UNTIL THIS WORK IS COMPLETED AND ACCEPTED.

After the new signalized intersection is added or the existing signal is modified, the traffic signal system shall be re-optimized by an approved consultant. The Contractor shall contact the County Traffic Engineer at (847) 377-7400 for a listing of approved consultants.

A listing of existing signal equipment, interconnect information and existing phasing/timing patterns may be obtained from the Lake County Traffic Engineering Department, if available and as appropriate. The consultant shall consult with the County Traffic Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system; in which case, the consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the re-optimization.

Traffic counts shall be taken at the subject intersection no sooner than 30 days after the traffic signals are approved for operation by the County Traffic Engineer. Seven day/twenty-four hour automatic traffic recorder counts will be required and manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m. and 3:30 p.m. to 6:30 p.m. on

typical weekday from midday Monday to midday Friday, and if necessary, on the weekend. Additional manual turning movement counts may be necessary if heavy traffic flows exist during off peak hours. The turning movement counts shall identify cars, heavy vehicles, buses, and pedestrian movements.

A Capacity Analysis shall be conducted at the subject intersection to determine its level of service and degree of saturation. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system with minor adjustments if necessary. Changes to the cycle lengths and offsets for the entire system may be required due to the addition/modification of the subject intersection. Both volume and occupancy shall be considered when developing the re-optimized timing program. Signal system optimization analyses shall be conducted utilizing SYNCHRO, PASSER II, TRANSYT 7F, SIGNAL 2000 or other appropriate approved computer software.

If the system is being re-optimized due to the addition of a signalized intersection, all the intersections shall be re-addressed according to the current standard of District One. The proposed signal timing plan shall be forwarded to LCDOT for review prior to implementation. The timing plan shall include a traffic responsive program and a time-of-day program which may be used as a back-up system. After downloading the system timings, the consultant shall make fine tuning adjustments to the timing in the field to alleviate observed adverse operating conditions and to enhance signal coordination.

The consultant shall furnish to LCDOT an original and two copies of the revised SCAT Report for the re-optimized system. The report shall contain the following: turning movement and automatic traffic recorder counts, capacity analyses for each count period, computer optimization analysis for each count period, proposed implementation plans and summaries including system description, analysis methodology, method of effectiveness comparison results and special recommendations and/or observations. Copies of the entire database including intersection displays and zone displays shall be furnished to LCDOT.

Basis of Payment: This work shall be paid for at the contract unit price per lump sum for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, which price shall be payment in full for performing all work described herein.

SIGNAL HEADS.

Add the following to Section 1078 of the "Standard Specifications" to read:

All vehicle signal and pedestrian signal heads shall provide 12-inch displays, with glossy black polycarbonate housings, with the following exception: At locations where existing yellow polycarbonate heads will remain, all new signal heads shall be yellow to match the existing ones. Connecting hardware and mounting brackets shall be polycarbonate, the same color as the heads, or galvanized. A corrosive resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post-top mounting collars are required on all posts, and shall be constructed of the same

material as the brackets. Where required, incandescent bulbs shall be manufactured by Duratest, Sylvania or an approved equal. Signal heads shall be positioned according to the District 1 "Standard Traffic Signal Design Details".

SIGNAL HEAD, LIGHT EMITTING DIODE (LED)

This work shall consist of furnishing and installing a traffic signal head or pedestrian signal head with light emitting diodes (LED) of the type specified in the plan or retrofitting an existing traffic signal head with a traffic signal module or pedestrian signal module with LEDs as specified in the plans.

LED signal heads (All Face and Section Quantities), (All Mounting Types) shall conform fully to the requirements of Sections 880 and 881 and Articles 1078.01 and 1078.02 of the "Standard Specifications" for Road and Bridge Construction," and amended herein:

The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (VTCSH) or show signs of entrance of moisture or contaminants within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the County.

The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face, and shall not affect chromaticity.

Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch in diameter. Additionally, the color shall be written out in 1/2-inch letters next to the symbol.

The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40°C to +74°C.

Maximum power consumption for LED modules is per Table 2.

Retrofit Traffic Signal Module:

All other specifications apply unless specifically superceded in this section.

1. Each Retrofit module (12-inch circular or 12-inch arrow indications) shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.

2. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.
3. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weatherproof after installation and connection.

12-Inch Arrow Module:

All other specifications apply unless specifically superceded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers, Chapter 2 (Vehicle Traffic Control Signal Heads) for arrow indications.
2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

12-inch Programmed Visibility (PV) Module:

All other specifications apply unless specifically superceded in this section.

1. The module shall be designed and constructed to be installed in a PV signal housing without modification to the housing.
2. The LEDs shall be spread evenly across the module

12-inch Pedestrian Module:

All other specifications apply unless specifically superceded in this section.

1. Each pedestrian signal LED module shall provide the ability to actuate the solid upraised hand and the solid walking person on one 12-inch section.
2. Two (2) pedestrian sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man.
3. "Egg Crate" type sun shields are not permitted. All figures must be a minimum of 9 inches in height and easily identified from a distance of 120-feet.
4. All pedestrian signals at an intersection shall be the same type and have the same display. No mixing of multiple types of pedestrian traffic signals will be permitted.

Basis of Payment.

This item shall be paid for at the contract unit price each for SIGNAL HEAD, LED, of the type specified, or PEDESTRIAN SIGNAL HEAD, LED, of the type specified, which price shall be payment in full for furnishing the equipment described above including signal head, LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for SIGNAL HEAD, LED of the type specified, RETROFIT, or PEDESTRIAN SIGNAL HEAD, LED, of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

Table 2 Maximum Power Consumption (in Watts)

	Red		Yellow		Green	
	25°C	74°C	25°C	74°C	25°C	74°C
12 inch (300 mm) circular	11	17	22	25	15	15
12 inch (300 mm) arrow	9	12	10	12	11	11
	Hand-Portland Orange		Person-White			
Pedestrian Indication	6.2		6.3			

Table 3 Minimum Initial & Maintained Intensities for Arrow and Pedestrian Indications (in cd/m²)

	Red	Yellow	Green
Arrow Indication	5,500	11,000	11,000

PEDESTRIAN COUNTDOWN SIGNAL HEAD, LIGHT EMITTING DIODE (LED)

This work shall consist of furnishing and installing a pedestrian countdown signal head, with light emitting diodes (LED) of the type specified in the plan or retrofitting an existing pedestrian traffic signal head with a pedestrian countdown signal module with LEDs as specified in the plan.

PEDESTRIAN COUNTDOWN SIGNAL HEAD, LIGHT EMITTING DIODE, shall conform fully to the SIGNAL HEAD, LIGHT EMITTING DIODE specification, with the following modifications:

Pedestrian Countdown Signal Heads, including Retrofit type, shall not be used at signalized intersections where traffic signals and railroad warning devices are interconnected.

Pedestrian Countdown Signal Heads, including Retrofit type, shall measure 12 inches x 12 inches, with 9-inch high countdown numerals, and form the time display utilizing two rows of LEDs.

Pedestrian Countdown Signal Heads shall consist of two (2) 12-inch by 12-inch modules aligned vertically. The top module of the unit shall be an LED message-bearing surface supplied with overlapping full "HAND" and full "MAN" symbols that comply with the ITE Pedestrian Traffic Control Signal Indications (PTCSI) standard for these symbols. The bottom module of the unit shall house a LED countdown traffic signal consisting of a two digit numerical display ("00" to "99") a minimum of nine (9) inches in height. The counter shall begin countdown at the beginning of the pedestrian clearance interval as the pictogram of the hand starts flashing. The counter shall execute a countdown of the time, in seconds, of the pedestrian clearance interval synchronized with the controller and ending at (0) at the expiration of the clearance interval. The counter shall be blank at all other times.

Retrofit Pedestrian Countdown Signal Module:

The Retrofit module shall be applicable where two (2) LED pedestrian signal sections exist, each with the Upraised Hand and Walking Person overlaid with the top section wired to illuminate only the Upraised Hand and the bottom section wired to illuminate only the Walking Person. The top section shall be re-wired to provide illumination of either of the displays, depending on the interval or phase. The contractor shall remove the existing bottom pedestrian overlay module and install a new countdown module.

Basis of Payment.

This item shall be paid for at the contract unit price each for PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, of the type specified, which shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM

Replace the first sentence of Article 1078.03 of the "Standard Specifications" with "All backplates shall be aluminum" and louvered".

VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION)

This specification sets forth the minimum requirements for a system that monitors vehicles on a roadway via processing of video images and provides detector outputs to a traffic controller or similar device. This work shall consist of furnishing and installing an Autoscope Solo Terra or approved equal video vehicle detection system at one signalized intersection, including all necessary hardware, cable and accessories necessary to complete the installation in accordance with the manufacturer's specifications.

The Autoscope Solo Machine Vision Processor (MVP) is normally installed on top of the luminaire arm. However, occasionally overhead utility wires obstruct the camera's field of view and prevent proper detector placement. When this occurs, the camera shall be installed on a J-hook below the luminaire arm.

In order for the Traffic Engineer to manipulate detection zones and view the video signal over a high-speed connection, the VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION) must be connected to either the LCDOT Gigabit Ethernet network or a VIDEO TRANSMISSION SYSTEM.

If the VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION) is being connected to the Gigabit Ethernet network, then a LAYER II (DATA LINK) SWITCH and/or a LAYER III (NETWORK) SWITCH will be required. Layer II and Layer III switches shall be installed according to the plans, and shall be paid for separately.

If the VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION) is being connected to a new or existing VIDEO TRANSMISSION SYSTEM, then fiber-optic video/data transmitters and receivers may be required. Fiber-optic video/data transmitters and receivers are necessary whenever the VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION) and the VIDEO TRANSMISSION SYSTEM are installed at separate signalized intersections. When required, fiber-optic video/data transmitters and receivers shall be installed according to the plans, and shall be included in the cost of this item. The VIDEO TRANSMISSION SYSTEM shall be paid for separately.

The system shall consist of integrated machine vision processor sensors (MVPs), an interface panel, and a detector interface card. The quantity of MVP sensors included with this pay item shall be as shown on the plans. The system shall also include a ten-inch color VGA monitor with BNC connector for video input. At signalized intersections that are not connected to the LCDOT Gigabit Ethernet network, a four-channel, real-time, color quad switcher unit shall be provided to select video input to the monitor. Vehicle detection zones shall be user-defined through interactive graphics by placing lines and/or boxes in an image on a VGA monitor. The system shall calculate traffic parameters in real-time and provide local non-volatile data storage for later downloading and analysis.

I. Introduction

The video vehicle detection system shall be easily configurable and expandable to meet traffic management applications such as intersection control, traffic monitoring, incident management, and traffic data collection. The system shall be composed of the following components:

- A machine vision processor (MVP) sensor that provides vehicle detection, JPEG video compression, and communications with other subsystems.
- Detector Interface Card
- A Windows-based communications and Windows-based applications software for setup and system configuration as well as any continued monitoring and data collection, if required.
- System communications that shall operate over any appropriate serial and/or Ethernet communications links provided by the systems integrator.
- An integrated color camera, zoom lens, and machine vision processor all in one unit; direct, real-time iris and shutter speed control; with single-frame, JPEG image compression.
- The system shall also have easily configured IP addressing for the MVP sensor field network.

II. MVP Sensor

The MVP sensor shall combine an integrated high-speed, color imaging CCD array with zoom lens optics, image-processing hardware and a general-purpose CPU bundled into a sealed

enclosure. The sensor shall be equipped with a sunshield to reflect solar heat and to shield the CCD array and faceplate from direct exposure to the sun. The sensor shall also be equipped with a faceplate heater to prevent accumulated ice, snow, or condensation from obscuring the view of the camera. The general-purpose CPU shall directly control the optics and camera electronics.

The lens shall be pre-focused at the factory and shall not require field adjustment. The zoom optics shall maintain focus throughout the operating range from 7 to 74 degrees horizontal field of view (5 to 58 degrees vertical field of view). At an operator's request, the MVP sensor shall temporarily switch to surveillance mode operation, which allows the operator to zoom the lens.

The MVP sensor shall provide color analog video output at 30 frames per second, and shall process a minimum of twenty (20) detector zones placed anywhere in the field of view of the sensor. The analog video output shall provide graphics overlay that indicates the current real-time detection state.

MVP Sensor External Interfaces

The external interfaces to the MVP sensor shall include the following:

Network Communications Port

There shall be a field network communications port to configure and provide general communications and data retrieval. The MVP sensor shall use a full- or half-duplex, RS-485, 4-wire electrical network to facilitate communications with a Windows computer. This port shall be used to update the embedded software and to interact with applications software for the various detection requests supported by the MVP sensor.

Detector I/O Port

The MVP sensor detector port shall use a dedicated, RS-485 2-wire, half-duplex interface between the MVP sensor and a detector interface card. The real-time state of traffic controller phase inputs shall be transmitted to the MVP sensor. The detector interface card shall subsequently translate the detection states to a traffic signal controller.

Differential Video

The MVP sensor shall output full motion, differential analog video over a single, twisted pair.

Power

The MVP sensor shall operate on 24 VAC at 50/60 Hz or 24 VDC. The camera and processor electronics and power supply shall consume a maximum of 10 watts. The integrated faceplate heater shall consume a maximum of 5 watts.

MVP Sensor Vehicle Detection Requirements

The MVP sensor shall be able to be programmed with a variety of detector types which can perform the following functions:

- Presence/passage detection of moving and stopped vehicles.
- Detection based on the direction of travel.

- Measure vehicle speed and length and provide five (5) classes of vehicles based on length.
- Detect incident shock waves using effective detection algorithms.
- Generate alarm status based on the detection of shock waves, wrong-way vehicles, stopped vehicles, red-light runners, or other operator-defined traffic conditions.
- Combine the output of multiple detectors with logical operators and modify the combined state based on delay or extension timers.

Detection Zone Programming

A VGA monitor shall display the detection zones superimposed on images of traffic scenes. A mouse and keyboard shall be used to place, size, and orient detection zones and edit previously defined detector configurations. It shall also be possible to download detector configurations from the computer to the MVP sensor and upload the current detector configuration that is running in the MVP sensor.

Count Detection Performance

Using an MVP sensor installed for optimal viewing, 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 artifact conditions. Artifact conditions are combinations of weather and lighting conditions that result from shadows, fog, rain, snow, etc. The volume count shall be accumulated for all traveled lanes, and accumulated over time intervals that contain a minimum of one hundred (100) vehicles to ensure statistical significance.

Demand Presence Detection Performance

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 artifact conditions, the MVP sensor shall minimize extraneous (false) protected movement calls to less than 7%.

Speed Detection Performance

The MVP sensor shall accurately measure average speed of multiple vehicles with more than 98% accuracy under all operating conditions for approaching and receding traffic. The MVP sensor shall accurately measure individual vehicle speeds with more than 95% accuracy under all operating conditions for vehicles approaching the sensor and 90% accuracy for vehicles receding from the sensor.

MVP Sensor Enclosure

The MVP sensor and lens assembly shall be housed in an environmental enclosure that provides the following capabilities:

- The enclosure shall be waterproof and dust-tight to NEMA-4 specifications, and shall have the option to be pressurized with dry nitrogen to 5 ± 1 psi.
- The enclosure shall allow the MVP 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.
 - A faceplate heater shall prevent the formation of ice and condensation in cold weather.

MVP Sensor Electrical

All video connections from the sensor shall 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. The MVP sensor shall meet CE, FCC, and UL requirements for safety and EMI.

III. Communications (Video Interface) Panel Requirements

The communications interface panel shall provide a terminal block for terminating power, as well as terminations for two twisted-pair wires for network communications to the MVP sensor, one twisted-pair for video output from the MVP sensor, and one twisted-pair for detector port communications. The panel shall also provide two sets of terminations for two twisted-pair wires for a point-to-point field network. The communications interface panel shall also provide transient protection and a DB9 connector for an optional traffic signal controller interface. This panel shall include a Gigabit Ethernet port and a serial port.

IV. Detector Interface Card

The system shall use a defined communication protocol (detector port protocol) between the MVP sensors and the detector interface card. The protocol shall be used to communicate TS1 input pins, TS1 output pins, TS2 detector states, and TS2 phase states.

V. Camera Protection / Installation Requirements

To protect the video detection cameras from electrical surges, the communications interface panel shall be grounded as follows:

1. The chassis sheet metal must be tied to ground with the supplied ground wire and stud.
2. All shield wires should be tied to the chassis ground stud.
3. Terminal position three (3) of each of the camera terminations shall be tied to the ground stud.
4. All extra/spare wires in the Autoscope MVP cable should be tied to ground.

VI. Basis of Payment

This item will be paid for at the contract unit price each for VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION) which price shall be payment in full for furnishing all associated equipment required, installing the system at one signalized intersection, and placing the system in operation to the satisfaction of the Engineer.

REMOTE-CONTROLLED VIDEO SYSTEM

This pay item shall include providing and installing a remote-controlled video system at a location designated by the Engineer. The remote-controlled video system shall be a PELCO Spectra IV SE Series Discreet Dome System or approved equal. This pay item shall include a color camera (minimum 35x optical zoom), dome assembly, all mounting hardware, connectors,

cables, and related equipment necessary to complete the installation in accordance with the manufacturer's specifications.

The contractor shall contact the Traffic Engineer prior to installing the Pelco camera and associated wiring, to receive final approval on the camera location

In order for the Traffic Engineer to control the camera remotely and view the video signal over a high-speed connection, the REMOTE-CONTROLLED VIDEO SYSTEM must be connected to either the LCDOT Gigabit Ethernet network or a VIDEO TRANSMISSION SYSTEM.

If the REMOTE-CONTROLLED VIDEO SYSTEM is being connected to the Gigabit Ethernet network, then a LAYER II (DATA LINK) SWITCH and/or a LAYER III (NETWORK) SWITCH will be required. Layer II and Layer III switches shall be installed according to the plans, and shall be paid for separately.

If the REMOTE-CONTROLLED VIDEO SYSTEM is being connected to a new or existing VIDEO TRANSMISSION SYSTEM, then fiber-optic video/data transmitters and receivers may be required. Fiber-optic video/data transmitters and receivers are necessary whenever the REMOTE-CONTROLLED VIDEO SYSTEM and the VIDEO TRANSMISSION SYSTEM are installed at separate signalized intersections. When required, fiber-optic video/data transmitters and receivers shall be installed according to the plans, and shall be included in the cost of this item. The VIDEO TRANSMISSION SYSTEM shall be paid for separately.

Basis of Payment: This item will be paid for at the contract unit price each for REMOTE-CONTROLLED VIDEO SYSTEM, which price shall be payment in full for furnishing all associated equipment required, installing the system complete and in place, and placing the system in operation to the satisfaction of the Engineer.

CAMERA MOUNTING ASSEMBLY.

This work shall consist of modifying an existing traffic signal mast arm pole to accommodate an extension pole suitable for mounting a CCTV Camera. The pole extension shall be a 20-foot long, 4-inch diameter, Schedule 80 galvanized steel pipe and fastened to the existing mast arm pole with adjustable, galvanized steel clamps as indicated in the plans.

Basis of Payment: This work shall be paid for at the contract unit price each for CAMERA MOUNTING ASSEMBLY, which shall include all necessary mounting hardware, labor, and incidentals necessary to securely fasten the assembly to an existing pole and placing the camera in operation to the satisfaction of the Engineer. The camera, cables, connectors, and related equipment shall be paid for separately as part of REMOTE-CONTROLLED VIDEO SYSTEM.

VIDEO TRANSMISSION SYSTEM

General

This specification sets forth the minimum requirements for a video transmission system that

allows a user to transmit video output from multiple cameras to a remote location, via video transmitter(s) and a high-speed communication link.

The VIDEO TRANSMISSION SYSTEM may be installed in either the intersection traffic signal cabinet or in the VIDEO COMMUNICATIONS CABINET. The Cabinet shall be paid for separately.

The VIDEO TRANSMISSION SYSTEM may include the relocation of existing video transmitter(s), ISDN modems, and/or high-speed Internet modem(s) to a new traffic signal cabinet. The relocation of such existing equipment to a new traffic signal cabinet shall be performed as directed by the Engineer and included in the cost of the VIDEO TRANSMISSION SYSTEM. Any item damaged during removal, storage, or reinstallation shall be repaired or replaced in kind to the satisfaction of the Engineer at the Contractor's expense.

System Components

The system shall consist of video transmitter(s) (ADPRO Fast Tx or approved equal), high-speed Internet modem(s), and related connection cables.

High-Speed Internet Modem

The high-speed Internet modem shall be provided by the County or the Internet Provider.

Basis of Payment: This item will be paid for at the contract unit price each for VIDEO TRANSMISSION SYSTEM, which price shall be payment in full for furnishing and/or relocating all associated equipment required, installing the system complete and in place, and placing the system in operation to the satisfaction of the Engineer

LAYER II (DATA LINK) SWITCH

This specification sets forth the minimum requirements for a layer two Ethernet switch that will transmit data from one traffic signal cabinet to another traffic signal cabinet containing a layer two switch or a layer three (Network) switch.

The layer two switch shall be a Cisco Catalyst 2955 Series Intelligent Ethernet Switch, or approved equal. This pay item shall include the layer two switch, one Bosch VidQuad digital video processor (Model LTC 2377/60), one video encoder/decoder (CODEC) for the video detection cameras at the intersection (if applicable), and one video encoder/decoder (CODEC) for the PTZ camera at the intersection (if applicable). The video CODEC(s) shall be Optelecom Model C-40, or approved equivalent. Other video CODECs submitted for approval must be compatible with the Lake County Passage Advanced Traffic Management System (ATMS) software and VideoLAN VLC Media Player Release 0.8.6 or later.

The Layer II (Data Link) Switch and Video CODEC shall be procured from Delcan, the County's Passage engineering consultant. Delcan shall program this equipment for the appropriate location in the County's communication network. The County's Passage Traffic Signal Software supplier shall acquire the pre-programmed switch and video CODEC from Delcan, and install in signal cabinets and/or communication cabinets, as required.

If the layer two switch is interconnected to other signalized intersections that deploy video detection without the use of switches, this pay item shall then also include all necessary video multiplexers, video and data transmitters, video encoders, and all necessary connections for proper video/data communications.

Basis of Payment: This item will be paid for at the contract unit price each for LAYER II (DATA LINK) SWITCH, which price shall be payment in full for furnishing and installing the switch, the digital video processor, the CODEC(s), media converters, terminal servers, and all necessary connectors, cables, hardware, software, other peripheral equipment, and placing it in operation to the satisfaction of the Engineer.

LAYER III (NETWORK) SWITCH

This specification sets forth the minimum requirements for a layer three switch that will transmit video data from one traffic signal cabinet to another traffic signal cabinet or to another location having a layer three switch.

The layer three switch shall be a Cisco Catalyst 3550 Series Intelligent Ethernet Switch, or approved equal. This pay item shall include the layer three switch, one Bosch VidQuad digital video processor (Model LTC 2377/60), one video encoder/decoder (CODEC) for the video detection cameras at the intersection (if applicable), and one video encoder/decoder (CODEC) for the PTZ camera at the intersection (if applicable). The video CODEC(s) shall be Optelecom Model C-40, or approved equivalent. Other video CODECs submitted for approval must be compatible with the Lake County Passage Advanced Traffic Management System (ATMS) software and VideoLAN VLC Media Player Release 0.8.6 or later.

The Layer III (Network) Switch and Video CODEC shall be procured from Delcan, the County's Passage engineering consultant. Delcan shall program this equipment for the appropriate location in the County's communication network. The County's Passage Traffic Signal Software supplier shall acquire the pre-programmed switch and video CODEC from Delcan, and install in signal cabinets and/or communication cabinets, as required.

If the layer three switch is interconnected to other signalized intersections that deploy video detection without the use of switches, this pay item shall then also include all necessary video multiplexers, video and data transmitters, video encoders, and all necessary connections for proper video/data communications.

Basis of Payment: This item will be paid for at the contract unit price each for LAYER III (NETWORK) SWITCH, which price shall be payment in full for furnishing and installing the switch the digital video processor, the CODEC(s), media converters, terminal servers, and all necessary connectors, cables, hardware, software, other peripheral equipment, and placing it in operation to the satisfaction of the Engineer.

VIDEO COMMUNICATIONS CABINET

This specification sets forth the minimum requirements for a video communications cabinet to be installed at the location(s) shown in the plans. The cabinet shall house the fiber optic termination equipment, layer three switches, and/or video transmission system, all of which will be paid for separately.

The Video Communications Cabinet shall be a Model 332 (Type 170) Controller Cabinet, with heat exchanger, or approved equal. The heat exchanger shall be thermostatically controlled to maintain the temperature between 32°F and 122°F within the enclosure. The cabinet shall be constructed of 0.125"-thickness, alloy-5052 sheet aluminum. The surface shall have a smooth, natural aluminum mill finish. The cabinet shall measure 24" wide x 30" deep x 55" high.

The communications cabinet shall have front and rear doors of NEMA type 3R construction with cellular neoprene gasket that is rain tight. Door hinges shall be continuous 14-gauge stainless steel and shall be secured with ¼-20 stainless steel carriage bolts. Standard equipment shall include a three-point locking system that secures the door at the top, bottom and center. A corbin lock with two keys shall also be furnished. The front and rear doors shall be equipped with a two-position doorstop, one at 90° and one at 120°. Door locking rods are ¼" x ¾" aluminum turned edgeways with 1" nylon rollers. Door handles shall be cast aluminum.

The cabinet shall be base mounted and equipped with inside flanges and anchoring holes in the front and back of the cabinet for anchoring to a base.

The cabinet shall be equipped with a 19" Electronic Industries Association (EIA) rack using 1.75" hole spacing for the purpose of mounting rack-mountable cabinet equipment. The cabinet shall include a splice enclosure, Corning Cable Systems CSH-05U, or approved equal, mounted on the 19" rack.

The cabinet shall also be equipped with a CCTV Power Distribution Assembly and a pull-out drawer/ shelf assembly.

The cabinet shall include one (1) 200-watt, thermostatically-controlled, Hoffman electric heater, or approved equivalent.

A power panel shall be included with the cabinet and shall include the following:

- 50-amp circuit breaker. This circuit breaker shall supply power to all devices in the cabinet.
- The main breaker shall be thermal magnetic type, U.L. listed for HACR service, with a minimum of 20,000 amp interrupting capacity.
- Two 15-amp load breakers with minimum 10,000 amp interrupting capacity.
- Two 20-amp load breakers with minimum 10,000 amp interrupting capacity.
- An EDCO model SHA-1250 surge arrestor, with fault indicator, or approved equivalent.

- A 15-position neutral bus bar capable of connecting three #12 wires per position.
- A 7-position ground bus bar capable of connecting three #12 wires per position.
- A NEMA type 5-15R GFI convenience outlet.
- A power supply with input voltage AC100-120/220-240V (switchable) 47-63 Hz, output voltage 24VDC (+5%, -1%), overload protection, and minimum operating temperature range -10° to +60°C. The power supply must be compatible with Cisco Catalyst 2955 Series switch.

The heat exchanger shall be mounted on the side of the communications cabinet and conform to the following specifications.

- Maximum dimensions of 47 inches high x 15 inches wide x 11 inches deep
- The unit shall provide closed-loop system cooling and heating
- Unit shall be fully gasketed and maintain the NEMA 3R enclosure rating
- Shall utilize a high efficiency, convoluted, refrigerant-free, aluminum heat transfer element
- Shall operate under maximum enclosure temperature of 150°F and maximum ambient temperature of 131°F
- The unit shall dissipate a minimum of 54 Watts per °F
- Shall operate on 115 VAC, 60 Hz
- Unit shall be UL listed

Basis of Payment: This item will be paid for at the contract unit price each for VIDEO COMMUNICATIONS CABINET, which price shall be payment in full for furnishing all associated equipment and labor, and installing the cabinet as shown on the plans and to the satisfaction of the Engineer. The concrete foundation for the cabinet shall be paid for separately.

RELOCATE EXISTING VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)

This work shall consist of the removal, storage, and relocation of an existing video detection system (complete intersection) from one traffic signal installation (temporary or permanent) to another traffic signal installation (temporary or permanent). This item shall also include the relocation of the remote-controlled video system according to the plans.

The video detection system (complete intersection) shall be removed and relocated as shown in the plans. Any damage sustained to the video detection system during removal, storage, transport, and/or reinstallation operations shall be repaired or replaced in kind to the satisfaction of the Engineer at the Contractor's expense.

Basis of Payment: This item will be paid for at the contract unit price each for RELOCATE EXISTING VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION), which price shall be payment in full for disconnecting the existing video detection system, remote-controlled video system, packaging/storing it, transporting it, and relocating it to the new location complete and operating to the satisfaction of the Engineer.

RELOCATE EXISTING REMOTE-CONTROLLED VIDEO SYSTEM

This work shall consist of the removal, storage, and relocation of an existing remote-controlled video system from one traffic signal installation (temporary or permanent) to another traffic signal installation (temporary or permanent). This pay item shall be used when only the remote-controlled video system is being relocated. This pay item shall not be used when the remote-controlled video system is being relocated as part of RELOCATE EXISTING VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION).

The remote-controlled video system shall be removed and relocated as shown in the plans. Any damage sustained to the remote-controlled video system during removal, storage, transport, and/or reinstallation operations shall be repaired or replaced in kind to the satisfaction of the Engineer at the Contractor's expense.

Basis of Payment: This item will be paid for at the contract unit price each for RELOCATE EXISTING REMOTE-CONTROLLED VIDEO SYSTEM, which price shall be payment in full for disconnecting the existing remote-controlled video system, packaging/storing it, transporting it, and relocating it to the new location complete and operating to the satisfaction of the Engineer.

RELOCATE EXISTING SWITCH

This work shall consist of the removal, storage, and relocation of an existing layer two or layer three switch from one traffic signal installation to another traffic signal installation.

The switch shall be removed and relocated as shown in the plans. Any damage sustained to the switch during removal, storage, transport, and/or reinstallation operations shall be repaired or replaced in kind to the satisfaction of the Engineer at the Contractor's expense.

Basis of Payment: This item will be paid for at the contract unit price each for RELOCATE EXISTING SWITCH, which price shall be payment in full for disconnecting the existing switch, packaging/storing it, transporting it, and relocating it to the new location complete and operating to the satisfaction of the Engineer.

ELECTRIC CABLE IN CONDUIT, COAXIAL

This work shall consist of furnishing and installing a Belden 8281 RG-59U Type Coaxial Cable or approved equal. The cable shall be a 75-ohm coaxial cable with 20 AWG solid bare copper conductor, tinned copper double-braided shield (96% min), and black polyethylene jacket. The nominal outside diameter shall be 0.304 inches. Amphenol 31-71032 (or equivalent) BNC plug connectors shall be used at both the PTZ camera and traffic signal cabinet ends of the cable. An Amphenol CLT-2 crimping tool is required for the termination. No splices shall be allowed in the cable between the PTZ camera and the traffic signal cabinet.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, COAXIAL, which price shall be payment in full for furnishing the material, making all electrical connections and installing the cable complete, measured as specified herein.

ELECTRIC CABLE IN CONDUIT, COMMUNICATION, NO. 16, 5½ PAIR

This work shall consist of furnishing and installing a Belden YC46223 communications cable, or approved equal, in existing and/or new conduit. This Belden cable has a color code that matches the MVP cable currently in use by the County. The cable shall consist of 16 AWG stranded bare copper twisted-pair conductors, with PVC insulation, and PVC jacket with nylon ripcord. The nominal outside diameter shall be 0.502-inch.

The communications cable, No. 16, 5½ pair shall be spliced to the MVP Cable in the base of the signal mast arm pole on which the MVP is mounted. The MVP cable shall be provided by the MVP manufacturer. The communications cable shall be provided by the Contractor. The conductors from the two cables shall be spliced using the 3M Scotchlok gel-filled splice tabs (part number 314). Each splice shall be individually protected with shrink tubing. The individual splices shall also be bundled together and protected with shrink tubing. The cost of all work associated with splicing the cables shall be considered incidental to the cost of the communications cable, No. 16, 5½ pair.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 16, 5½ PAIR, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operation.

878004XX CONCRETE FOUNDATION, TYPE E XX-INCH DIAMETER

This item shall be in accordance with the Lake County Division of Transportation Traffic Signal Special Provisions except for the following:

Class SI Concrete Mix will be allowed in lieu of Class DS Concrete Mix. If Class SI Concrete Mix is used, the entire length of the drilled shaft concrete shall be vibrated.

IDOT SPECIAL PAY ITEMS FOR ROAD AND BRIDGE CONSTRUCTION

A200 TREE PLANTING
D200 TREE PLANTING

This work shall conform to the requirements of Section 253 with the following additions.

General site preparation

Where planting occurs in close proximity to other site improvements, care shall be taken to not disturb the existing conditions. Any areas damaged during planting operations shall be promptly restored to their original condition at no cost to the County.

Add the following paragraph to Article 253.12.

Borer control

All oak species shall be protected against borer attack. Apply a 50% cygon, 50% water mix to entire trunk and major stems/branches prior to wrapping. Do not allow mix to contact foliage. Wrap each trunk with a double layer of aluminum screen from ground to first limbs. Cover with commercial grade paper tree wrap and seal top and bottom of wrap with duct tape. Do not attach to tree bark.

Period of Establishment

Remove the third paragraph of Article 253.14 and insert the following:

All plantings will be inspected by the Engineer. Plants must be in a live and healthy condition, representative of its species, at the time of initial inspection. Initial inspection will not occur until all work is completed. The Contractor will not be permitted to terminate his operations until all plant material is in a live, healthy condition. Any plant which is not healthy or is dead will be immediately replaced and is not considered a replacement and will be subject to the plant guarantee.

When replacements are completed, the Contractor shall weed and thoroughly clean up the entire job to the satisfaction of the Engineer. Cleanup shall include pruning dead branches off the accepted plant material, spraying insect infected plants, removing staking and screening material, weeding, restoring mulch, removing work-related debris and generally cleaning up the work site. When cleanup operations have been completed, inspection will be made for replacement items only. All replacement items shall meet and be planted in accordance with the original job specifications.

All trees are subject to a one year guarantee for survivability. To be acceptable, the plant must be in a live healthy condition, representative of its species, and shall have been growing in place for not less than one year prior to inspection. A final inspection will be performed by the Engineer and the Contractor will be notified of any plants

requiring replacement. Plants that do not meet the requirements for final acceptance shall be replaced by the Contractor at the Contractor's own expense, following the date of inspection and prior to November 15; or in the case of items specified for spring planting only, prior to the following May 15, at which time another inspection will be made for replacements only by the Engineer. Replacements must be sound, healthy and representative of its species.

Until time of final acceptance, all planted areas shall be maintained by the Contractor. This includes weeding, and watering as required by the Engineer. Watering must be completed within three days of notification to the Contractor.

Upon completion of the final performance inspection or after satisfactory completion of any necessary corrections, the Engineer shall notify the Contractor in writing of the date of such final performance inspection and release him from further performance responsibility.

The Delay in performance inspection and performance acceptance of the entire project and final payment due if the Contractor provides the Department with a surety bond in the full amount of all tree quantities in the contract, multiplied by the contract unit price. This bond shall be executed prior to acceptance and final payment of all other items of work in this contract and shall be in full force and effect until final performance inspection and acceptance of the trees.

Materials

Add the following to Article 781.01

Nursery Stock

1. All plants shall be nursery grown and shall have been growing under the same climatic conditions as the project location for a minimum of three years prior to the date of this project planting. Documentation of sources will be provided to agent as required.

This work shall be paid for at the contract unit price each for the kinds and sizes of trees specified.

Basis of Payment

This work shall be paid for at the contract unit bid price per each for trees of the variety and size specified, which price shall include all materials, equipment and labor.

X0301797 GATE REMOVAL

Description: This work shall consist of removing the existing security steel gate with foundations at the locations shown on the plans or as directed by the Engineer.

General: *The existing security gate located at Six Flags Drive shall be removed and disposed off-site by the contractor.*

The associated foundations for the existing gate shall be removed as part of the gate removal. This material shall be removed and disposed off-site by the contractor.

Method of Measurement: GATE REMOVAL will be measured for payment as each.

Basis of Payment: This work will be paid for at the contract unit price per each for GATE REMOVAL. *The unit price shall include both the removal of the gate and existing foundations.*

X0301850 TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (FLARED)

This work shall consist of furnishing and installing a Traffic Barrier Terminal Type 1, Special of the type specified in the plans according to Section 631 of the Standard Specifications and the following:

Delete all references to Type 1 terminal in Section 631 to the Standard Specifications. All terminals shall meet the testing criteria contained in the National Cooperative Highway Research Program (NCHRP) Report 350 and be approved by the Department.

The terminal shall be installed according to the manufacturer's specifications and shall include all necessary transitions between the terminal and the item to which it is attached. The terminals shall follow the manufacturer's specifications for installation as to type and number of posts, foundation tubes, and soil plates.

The terminals at a single location within a project shall be of the same manufacture and configuration and shall be identical in design and appearance unless otherwise specified in the plans. The installation of the terminal shall be in accordance with standard LC 6320.

Traffic Barrier Terminal Type 1, Special (Flared) shall be delineated with a terminal marker direct applied. No other guardrail delineation shall be attached to the terminal section.

This work will be paid for at the actual contract unit price each for TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT) and for TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (FLARED).

The terminal marker direct applied will be paid for separately.

Widening of existing shoulders for the construction of Traffic Barrier Terminal, Type 1, Special (Tangent) or Traffic Barrier Terminal Type 1, Special (Flared) shall be as shown on the plans and will be paid for according to Section 205 of the Standard Specifications for Embankment.

X0321524 CHIMNEY SEAL

This work consists of furnishing and installing internal chimney seals in sanitary manholes as shown on the plans and as directed by the Engineer.

These provisions include the materials and procedures required for the internal sealing of the frame-chimney joint area of all brick and block manholes and the entire chimney area of all precast, fiberglass, and plastic manholes.

The manufacturers of all manhole frame seals shall submit a notarized certification to the Engineer stating that their product meets the design life, performance, and applicable material requirements of this specification.

Frame seals shall remain flexible throughout a 25-year design life, allowing repeated vertical movement of the frame of not less than two inches and/or repeated horizontal movement of not less than ½ inch.

The sleeve portion of the seal shall be either double or triple pleated with a minimum unexpanded vertical height of eight inches or ten inches, respectively. The sleeve and extensions shall have a minimum thickness of 3/16 inch and shall be made from a high-quality rubber compound conforming to the applicable requirements of ASTM C923, with a minimum 1500 psi tensile strength, a maximum 18% compression set and a hardness (durometer) of 48+/- 5.

The bands shall be integrally formed from 16-gauge, stainless steel conforming to ASTM A240, Type 304, with no welded attachments, have a minimum range of two diameter inches, and a positive-locking mechanism. Any screws, bolts, or nuts used for this mechanism shall be stainless steel conforming to ASTM F593 and 594, Type 304.

The chimney seals shall be manufactured by Cretex Specialty Products.

The surface preparation required to install the frame seal and the installation of the seal and extensions shall be in accordance with the manufacturer's instructions.

This work shall be paid for at the contract unit price each for CHIMNEY SEAL, which price shall include all labor, equipment, and material needed for a complete installation.

X0321556 SANITARY MANHOLES TO BE ADJUSTED

This work shall be in accordance with Section 602 of the Standard Specifications in so far as applicable and the following provisions:

 This item consists of the adjustment of sanitary manhole frames and lids to proposed grade.

 All adjustments shall be made using precast reinforced concrete adjustment rings. A maximum of 8" of rings will be permitted.

This work will be paid for at the contract unit price each for SANITARY MANHOLES TO BE ADJUSTED, which price shall include resetting the frame with lid, excavation, and backfill.

X0322923 SEGMENTAL CONCRETE BLOCK WALL

Effective: January 1, 2007

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 5' 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:*

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 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 course 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.*
 - b. *An elevation view of the wall, indicating the elevation and all steps in the top course 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.*
 - c. *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.*

- d. *All general notes required for constructing the wall.*
2. *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 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 6".*
 3. *Cap blocks shall be used to cover the top of the standard block units. The top course of blocks and cap blocks shall be stepped to satisfy the top of block line shown on the contract plans.*
 4. *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.*
 5. *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.*
 6. *All block types (standard, cap, corner, and radius turning blocks) shall be detailed showing all dimensions.*
 7. *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:*

1. *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 conform to the requirements of ASTM C 1372 except as follows:*
 - a. *Fly ash shall be according to Article 1010.01 and Article 1010.03 of the "Standard Specifications".*

- b. *Ground granulated blast-furnace slag shall be according Section 1016 of the "Standard Specifications".*
 - c. *Aggregate shall be according to Article 1003.02 and Article 1004.02 of the "Standard Specifications", 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.*
 - d. *Water shall be according to Section 1002 of the "Standard Specifications".*
 - e. *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.*
2. *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) of the "Standard Specifications", or a fine aggregate according to the first sentence of Article 1003.04(a) of the "Standard Specifications". The aggregate used shall also meet the following:*
- a. *Coarse Aggregate Gradation* CA 6 thru CA 16 (Article 1004.01(c))
 - b. *Fine Aggregate Gradation* FA 1, FA 2, or FA 20 (Article 1003.01(c))
 - c. *Coarse Aggregate Quality* Minimum Class C (Article 1004.01(b))
 - d. *Fine Aggregate Quality* Minimum Class C (Article 1003.01(b))
 - e. *Internal Friction Angle* 34° minimum (AASHTO T 236)
 - f. *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 6" 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 12" wide continuous gradation filter to prevent the select fill material from passing through the block joints.

- 3. *Leveling pad: The material shall be either Class SI concrete according to Article 1020.04 of the "Standard Specifications", or compacted coarse aggregate according to Article 1004.04, (a) and (b) of the "Standard Specifications". The compacted coarse aggregate gradation shall be CA 6 or CA 10.*
- 4. *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 -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 205.05 of the "Standard Specifications", except the minimum required compaction shall be 95 percent 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 of the "Standard Specifications".

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 10" loose measurement or the proposed block height.

The select granular backfill shall be compacted according to Article 205.05 of the "Standard Specifications", except the minimum required compaction shall be 95 percent 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 12" 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 1/2" when measured along a 10' straight edge.

Method of Measurement: Segmental Concrete Block Wall will be measured in place and the area of the wall face computed in square feet. The wall face is measured 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 foot for SEGMENTAL CONCRETE BLOCK WALL.

X0323013 TUBULAR STEEL GATE

Description: This work shall consist of installing a new Tubular Steel Gate with foundations at the locations shown on the plans or as directed by the Engineer.

General: *The proposed Tubular Steel Gate shall span the entire width of Six Flags Dr. when both gates are closed. The connection between the two separate sections of the proposed gate shall have an acceptable means of connection at the middle to provide a secure gate closure. The gate and posts shall consist of pre-galvanized pipe.*

Details and shop drawings for the gate, foundations and all associated accessories should be submitted to the Engineer for approval prior to fabricating and installing the gate and foundations.

Proposed foundations to accommodate the proposed steel gate shall consist of Class SI concrete and be installed at least 5'-0" deep.

Upon construction of the gate, the contractor shall install a pad lock with two (2) sets of keys.

The proposed gate shall be painted with a heavy coat of Zinc rich paint. The propose color shall be submitted to the Engineer for approval prior to fabrication and installation.

Method of Measurement: TUBULAR STEEL GATE will be measured for payment as each.

Basis of Payment: This work will be paid for at the contract unit price per each for TUBULAR STEEL GATE.

X0325151 REMOVE EXISTING LIGHT POLE

This work shall consist of removal and disposal of existing light poles in accordance with Section 842 of the Standard Specifications. The removal of the luminaries shall be included in the unit cost for this item. The removal of the existing foundation shall be paid for at the unit price each for LIGHTING FOUNDATION REMOVAL.

Basis of Payment: This work will be paid for at the contract unit price per each for REMOVE EXISTING LIGHT POLE.

X0712400 TEMPORARY PAVEMENT

Effective: January 1, 2007

Description: This work shall consist of constructing, maintaining, and removing temporary pavement at the locations shown on the plans or as directed by the Engineer.

Materials: The hot-mix asphalt materials shall be according to Section 1030 of the "Standard Specifications".

General: *Temporary pavement shall consist of 8" of Hot-Mix Asphalt Base Course constructed and compacted according to Section 355 of the "Standard Specifications". The temporary pavement shall be placed and compacted in a minimum of two lifts on a prepared subgrade.*

The hot-mix asphalt mixture shall be as shown on the plans.

Article 355.08 of the "Standard Specifications", shall not apply.

The removal of temporary pavement shall be according to Section 440 of the "Standard Specifications". The removed pavement shall be disposed of outside the right-of-way according to Article 202.03 of the "Standard Specifications".

Method of Measurement: Temporary Pavement will be measured for payment in place, and the area computed in square yards.

Basis of Payment: This work will be paid for at the contract unit price per square yard for TEMPORARY PAVEMENT. *The unit price shall include both the placement and removal of the hot-mix asphalt material.*

X2010510 CLEARING AND GRUBBING

Description: This work shall consist of the removal and disposal of all obstructions to proposed improvements including, but not limited to walls, foundations, buildings, accumulations of rubbish of whatever nature, and existing structures, the removal of which is not otherwise provided for in article 501.07; all logs, shrubs, bushes, samplings, grass, weeds, other vegetation and stumps of a diameter less than 6 in.

General: The work shall be performed according to Section 201 of the "Standard Specifications".

Method of Measurement: CLEARING AND GRUBBING will NOT be measured for payment.

Basis of Payment: This work will be paid for at the contract lump sum unit cost for CLEARING AND GRUBBING.

X2800105 TEMPORARY DITCH CHECKS, URETHANE FOAM/GEOTEXTILE

Effective: January 1, 2007
Revised: January 30, 2007

Description: This work shall consist of constructing, maintaining, and removing temporary ditch checks.

Materials: The ditch checks shall be constructed with products from the following:

The temporary ditch checks shall be limited to Triangular Silt Dikes™, or an approved equal.

Manufacturer
Triangular Silt Dike Company, Inc.
608 Greenwood
Midwest City, OK 73110-1632
(405)741-7406

Area Representative/Dealer
GSI Geosynthetics, Inc.
428 N. Pewaukee Road
Waukesha, WI 53188
(800) 444-5523

General: The work shall be performed according to Section 280 of the "Standard Specifications", LCDOT Standard Drawing LC2050 and the following:

Each silt dike shall consist of a 7 foot (approximately) long triangular section of urethane foam covered with a geotextile fabric, and installed on a geotextile fabric apron. Triangular Silt Dikes™ shall be installed at the locations specified on the Erosion Control Plan, or as directed by the Engineer. Their installation shall be according to the detail as shown on the plans and the manufacturer's recommendations.

The geotextile fabric shall conform to Article 1080.05 of the "Standard Specifications", for Geotechnical Fabric for French Drains.

The ditch checks shall become the property of the Contractor upon their removal.

Method of Measurement: *Temporary Ditch Checks, Urethane Foam/Geotextile will be measured for payment as 1 each for each 7 foot section actually installed.*

Basis of Payment: This work will be paid for at the contract unit price per each for TEMPORARY DITCH CHECKS, URETHANE FOAM/GEOTEXTILE. *The unit price shall include all labor, equipment and materials necessary for their installation and removal. The maintenance of this item shall be included with and paid for as part of the contract lump sum price for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS.*

X2800500 INLET PROTECTION, SPECIAL

Effective: January 1, 2007

Description: This work shall consist of supplying, installing, and maintaining, removing, and disposing of the inlet protection as part of the projects temporary erosion control system.

Material:

The Inlet protection system is comprised of a corrosion resistant steel frame and a replaceable geotextile sediment bag attached to the frame with a stainless steel locking band. The sediment bag hangs suspended from the rigid frame at a distance below the grate that shall allow full water flow into the drainage structure if the bag is completely filled with sediment.

The Inlet protection frame includes lifting handles in addition to the standard overflow feature. A removal tool engages the lifting bars or handles to allow manual removal of the assembly without machine assistance. The frame suspension system is adjustable in 1/2" increments up to 5" per side on rectangular designs should the casting or drainage structure have imperfections.

The 2-ply Sediment Bags have a typical flow rate of 145 gpm and are furnished with either Woven Monofilament or NonWoven geotextile filter fabric meeting the following specifications:

<i>Material Property</i>	<i>Test Method</i>	<i>Value (min average roll value)</i>	
> Inner Filter Bag Specs (2 ft³ min vol)		<u>Non-Woven</u>	<u>Woven Monofilament</u>
Grab Tensile	ASTM D 4632	100 lbs	200 lbs
Puncture Strength	ASTM D 4833	65 lbs	90 lbs
Trapezoidal Tear	ASTM D 4533	45 lbs	75 lbs
UV Resistance	ASTM D 4355	70% at 500 hrs	90 %
App Open Size (AOS)	ASTM D 4751	70 sieve (.212)	40 sieve (.425)
Permittivity	ASTM D 4491	2.0 /sec	2.1/sec
Water Flow Rate	ASTM D 4491	145 gpm/sqft	145 gpm/sqft
> Polyester Outer Reinforcement Bag Specifications			
Weight	ASTM D 3776	4.55 oz/sqyd +/- 15%	
Thickness	ASTM D 1777	.040 +/- .005	

Identification of Drainage Structures:

The Installer (Contractor) shall inspect the plans and/or worksite to determine the quantity of each drainage structure casting type. The foundry casting number or the exact grate size and clear opening size will provide the information necessary to identify the required Inlet protection part number.

Installation:

Remove the grate from the casting or concrete drainage structure. Clean the ledge (lip) of the casting frame or drainage structure to ensure it is free of stone and dirt. Drop in the Inlet protection through the clear opening and be sure the suspension hangers rest firmly on the inside ledge (lip) of the casting. Replace the grate and confirm it is elevated approximately 1/8", which is the thickness of the steel hangers.

For Curb Box Inlet Filters: Insert the Inlet protection as described above, pull the rear curb guard flap up and over the open curb box until tight, align magnets to ensure firm attachment to the top portion of the curb box casting. If the curb back opening is not magnetic, slide a typical rock sack or 2 x 4 through the 2-ply rear curb box flap to create a dam which will direct runoff into the sediment bag.

Maintenance:

The Inlet protection should be inspected after each major rain event (1/2" or more) and emptied if the sediment bag is more than half filled with sediment and debris, or as directed by the Engineer. Remove the grate, engage the lifting bars or handles with the Inlet protection removal tool, and lift the Inlet protection from the drainage structure. Machine assistance is not required. Dispose of the sediment or debris as directed by the Engineer. Remove any caked on silt from the sediment bag and reverse flush the bag for optimal filtration. Replace the bag if the inner filter membrane is torn. If properly maintained, the sediment bag should last up to 4 years in the field.

When replacing a Sediment Bag, remove the bag by loosening or cutting off the clamping band. Take the new sediment bag, which is equipped with a stainless steel worm drive clamping band, and use a screw driver or nut driver to tighten the bag around the frame channel. Ensure the bag is secure and that there is no slack around the perimeter of the band. For Oil absorbent bags, simply replace the oil boom or pouch when saturated.

Method of Measurement and Basis of Payment:

The number of Inlet protection systems installed will constitute the quantity paid at the contract price. This includes labor and materials necessary to install the units. The Contractor shall leave the Inlet protection systems in place until directed to remove them from the drainage structures. At this time the Owner of the Inlet protection systems, as determined by the contract, shall claim them or release them.

Maintenance/Cleaning of the Inlet protection systems may be considered as a separate pay item and will be paid for at a contract price times the number of units maintained per occurrence.

This work will be measured for payment as individual items and the unit of measurement will be each regardless of the size or type of inlet being protected.

Basis of Payment: This work will be paid for at the contract unit price per each for INLET PROTECTION, SPECIAL.

X6013600 PIPE UNDERDRAINS 4" (MODIFIED)

Effective: January 1, 2007
Revised: January 30, 2007

Description: This work shall consist of constructing pipe underdrains of the required inside diameter.

Materials: The pipe underdrain materials shall be according to Article 601.02 of the "Standard Specifications" except that:

They shall be limited to the following items:

- (m) Perforated Polyvinyl Chloride (PVC) Pipe [1040.03(b)]
- (n) Perforated Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior [1040.03(c)]
- (r) Perforated Corrugated Polyethylene (PE) Pipe with a Smooth Interior [1040.04(a)]

General: The work shall be performed according to Section 601 of the "Standard Specifications" and the following:

Rodent shields and square concrete collars (where required) as shown on LCDOT standard drawing LC6010 in the plans, shall be incidental to PIPE UNDERDRAINS 4" (MODIFIED).

Method of Measurement: Pipe underdrains shall be measured in place, in feet, of actual pipe installed.

Basis of Payment: This work will be paid for at the contract unit price per foot for PIPE UNDERDRAINS 4" (MODIFIED). *The unit price shall include furnishing and placing all pipe, fittings, connecting pipes, rodent shields, and concrete collars.*

X6700405 ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED)

Effective: January 1, 2007

Description: This work shall consist of furnishing and maintaining in good condition, for the exclusive use of the Engineer, a weatherproof building at a location approved by the Engineer. Unless otherwise provided, the building shall be independent of any building used by the Contractor and all keys to the building shall be turned over to the Engineer.

General: This item shall be according to Article 670.02 of the "Standard Specifications", and the following:

Adequate all-weather parking spaces shall be provided to accommodate a minimum of 8 vehicles.

The field office and the required equipment, supplies and services shall meet the approval of the Engineer.

An electric pencil sharpener and a broadband connection shall be included in the field office equipment.

Penalty: *Failure by the Contractor to meet the specified occupancy date for any field office or field laboratory shall be grounds for assessment of a penalty of **\$100** per day for each calendar day thereafter that such facility remains incomplete in any respect. Failure by the Contractor to equip, heat, cool, power, supply or clean the field office shall be grounds for assessment of a penalty of **\$100** per day for each calendar day that the field office remains incomplete after receipt of written notification from the Engineer. Such penalty shall be deducted from monies due or to become due the Contractor under the Contract.*

Basis of Payment: This item will be paid for at the contract unit price per calendar month for ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED).

X8900010 TEMPORARY TRAFFIC SIGNAL INTERCONNECT

This work consists of installing and maintaining a temporary traffic signal interconnect. Communication with the existing interconnect shall be maintained throughout the duration of construction except when the interconnect cable is being removed and reinstalled.

Wood poles shall be installed at the locations specified on the project plans. The existing copper interconnect cable shall be removed from the existing conduit. Fiber optic cable will be installed either in the existing conduit or aerially as specified on the plans. Where the installation is in conduit, the fiber optic cable shall be the permanent cable, FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, 36 FIBER (12 MULTIMODE AND 24 SINGLEMODE)

Basis of Payment. All work described above shall be paid for each as TEMPORARY TRAFFIC SIGNAL INTERCONNECT which price shall be payment in full for installing, maintaining and removing all equipment required for the temporary traffic signal interconnect.

XX001758 WOOD FENCE REMOVAL

This work consists of removing existing fence, as shown on the plan sheets and Schedule of Quantities.

The contractor shall remove and dispose of all fence materials, including concrete used to anchor fence posts. All fencing material removed shall become the property of the Contractor and shall be disposed of outside the right-of-way. All earth excavation/disturbed earth areas associated with the fence removal shall be backfilled with topsoil and reseeded as shown on the plans or as directed by the engineer.

WOOD FENCE REMOVAL will be paid for at the contract unit price per foot of fence removed.

XX003503 – FLARED END SECTION REMOVAL

Description: This work shall consist of the removal of existing concrete flared end sections to be disposed of properly. The resulting disturbed ditch area shall be regraded appropriately according to the plans including restoration with seeding or sodding.

Basis of Payment: This work shall be paid for at the contract unit price each for FLARED END SECTION REMOVAL. This price shall include the cost of all labor, materials and equipment necessary to perform this work in addition to all disposal costs.

XX004878 MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS

Effective: July 21, 2008

Description: This work shall consist of maintaining the temporary erosion control systems installed by the Contractor, as directed by the Engineer, to control siltation at all times during the duration of the project.

General: The work shall be performed according to Section 280 of the "Standard Specifications" and the following:

Maintenance of Temporary Erosion Control Systems shall include the repair of the various systems, removal of entrapped sediment and cleaning of any silt filter fabric. The sediment shall be removed as directed by the Engineer and disposed of according to Article 202.03 of the "Standard Specifications".

Accumulated silt in sediment basins shall be removed at any time the basin becomes 75% filled. Any additional materials and work required by the Engineer will be measured and paid for as specified.

When a temporary erosion control system is in need of maintenance, the Engineer will give the Contractor written notice. If the Contractor fails to maintain the temporary erosion control systems, as directed by the written notice of the Engineer, the Engineer may, at the expiration of a period of 48 hours, proceed to maintain the systems as deemed necessary. The cost of the maintenance will be deducted from any compensation due, or which may become due the Contractor under this contract.

Method of Measurement: *Work performed under this item shall be submitted by the Contractor to the Resident Engineer on a force account basis in accordance with article 109.04(b) of the "Standard Specifications". The Resident Engineer may use any, all or none of this pay item.*

Basis of Payment: *The price for this item is established by LCDOT, based on the Engineer's Estimate and the following formula.*

<u>Contract Pay Item</u>	<u>Percent of Bid Item</u>
<i>Temporary Ditch Checks (Urethane Foam/Geotextile)</i>	<i>20%</i>
<i>Perimeter Erosion Barrier</i>	<i>100%</i>
<i>Inlet Protection (Special)</i>	<i>60%</i>
<i>Inlet Filters</i>	<i>60%</i>
<i>Seeding, Sodding or Sodding (complete) *</i>	<i>20%</i>

** if more than one of these items is included in the pay items then the sum is used.*

*The price for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS for this contract is **\$28,320.00**.*

MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS will be shown at a contract unit price per unit. One (1) unit will equal one dollar (\$1.00) of force account work performed according to Article 109.04 (b) of the "Standard Specifications".

XX005940 REMOTE CONTROLLED VIDEO SYSTEM

This item shall be in accordance with the Lake County Division of Transportation Traffic Signal Special Provisions except that the first paragraph shall be revised to read:

This pay item shall include providing and installing a remote-controlled video system near the end of the luminaire arm as shown on the plans. The installation shall be as shown on the Video Detection Camera(s) and PTZ Camera Mounting Detail on the Standard Traffic Signal Design Detail sheet (Sheet 2 of 2). The remote-controlled video system shall be a PELCO Spectra IV SE Series Discreet Dome System or approved equal. This pay item shall include a color camera (minimum 35x optical zoom), dome assembly, PELCO WCS Series Power Supply, PELCO SMR 1-NRT9 mounting bracket and all associated mounting hardware, connectors, and related equipment necessary to complete the installation in accordance with the manufacturer's specifications.

XX006652 STAMPED COLORED PORTLAND CEMENT CONCRETE MEDIAN SURFACE 4 INCH (SPECIAL)

Description:

This work shall consist of placing portland cement concrete median surface for locations depicted on the plans. All work and materials will be in accordance with Section 606 of the STANDARD SPECIFICATIONS except as described below.

Construction Requirements:

A color sample shall be submitted to the County for approval prior to the construction of the median. The pattern shall be approved by the County and the ENGINEER prior to construction.

The release agent for concrete stamping tools shall be in accordance with the stamping toll's manufacturer's recommendations and the following: 1) It shall not leave a residue. 2) It shall not harm the concrete. 3) It shall not be water. 4) However, water based agents may be considered.

Method of Measurement:

STAMPED COLORED PORTLAND CEMENT CONCRETE MEDIAN SURFACE 4 INCH (SPECIAL) will be measured for payment in place, and the area computed in square feet.

Basis of Payment:

This work will be paid for at the contract unit price per square foot for STAMPED COLORED PORTLAND CEMENT CONCRETE MEDIAN SURFACE 4 INCH (SPECIAL), which price shall include all required expansion joints, coloring, special texturing and patterns. The aggregate fill is paid separately as AGGREGATE BASE COURSE, TYPE A 6".

XX006658 FLOCCULATION LOGS
XX006659 FLOCCULATION POWDER

Effective: January 1, 2007

Description: This work shall consist of furnishing and applying Flocculation Logs and/or Flocculation Powder on the project site to minimize soil erosion, bind soil particles, remove suspended particles, and act as a construction aide.

Materials: The polymer shall be a water soluble anionic polyacrylamide (PAM). PAMs are manufactured in various forms to be used on specific soil types. Using the wrong PAM may result in performance failures. All site specific soils shall be tested by a Certified Professional in Erosion and Sediment Control (CPESC) each time a PAM is used. The following measures shall be adhered to:

- a) Toxicity: All vendors and suppliers of PAM, PAM mix, or PAM blends, shall supply a written toxicity report, which verifies that the PAM, PAM mix or PAM blends, exhibits acceptable toxicity parameters which meet or exceed the requirements for the State and Federal Water Quality Standards. **Cationic formulations of PAM, PAM blends, polymers or Chitosan are not allowed.**
- b) Performance: All vendors and suppliers of PAM, PAM mix or PAM blends shall supply written "site specific" testing results, demonstrating that a performance of 95% or greater of nephelometric turbidity units (NTU) or total suspended solids (TSS) is achieved from samples taken. In addition to soil testing, a CPESC person shall design the installation plan for the polymers based on mix time and point of entry.
- c) Safety: PAM shall be mixed and/or applied in accordance with all Occupational Safety and Health Administration (OSHA) material safety data sheet (MSDS) requirements and the manufacturer's recommendations for the specified use.

Construction Requirements:

Flocculation Powder Dry Form Application: Dry form powder may be applied by hand spreader or mechanical spreader. Pre-mixing of dry form PAM into fertilizer, seed or other soil amendments is allowed when instructed by the CPESC. The application method shall insure uniform coverage to the target area. Application rates typically range from 10 pounds per acre to 18 pounds per acre.

Flocculation Powder Hydraulically Applied Application: PAM is typically used as part of hydraulically applied slurry containing at least mulch and seed to quickly establish vegetation, temporary or permanent. When used without seed, PAM provides temporary erosion protection for cut & fill surfaces. Application rates typically range from 10 pounds per acre to 18 pounds per acre.

Flocculation Powder Installation constraints: Flocculation Powder shall be applied to non-frozen soil surfaces, only. An unfrozen soil surface is defined as any exposed soil surface free of snow, standing water, ice crystals, etc. which is comprised of discrete soil particles unbound to one another by surface or interstacy ice. The temperature shall be at least 40° F, when hydraulically applying the Flocculation Powder

Flocculation Log Installation: A Flocculation Log is a semi-hydrated polyacrylamide block that is placed within stormwater or construction site drainage to remove fine particles and reduce NTU values. Placement of Flocculation Logs should be as close to the source of particle suspension as possible. Ideal performance of the Flocculation Logs occurs when the product is used in conjunction with other best management practices. Each Flocculation Log is specifically formulated for the soil and water chemistry at the site. Soil and water samples will determine which formula Flocculation Log is needed. The samples will also aid in determining proper placement.

Flocculation Products Maintenance plan: As with any other best management practice, this system will need to have a maintenance plan in place. The Contractor shall perform the following items as directed by the Engineer:

1. Reapplication of Flocculation Powder to disturbed areas
2. Reapplication of Flocculation Powder to temporary areas
3. Replacement of Flocculation Logs
4. Adjustments to the Storm Water Pollution Prevention Plan

Method of Measurement: An estimated quantity of Flocculation Logs is included in the summary of quantities to establish a unit price only. A typical dry log weighs about 10 pounds and is approximately 5" x 4" x 12". Payment will be made based on the actual number of logs used. An estimated quantity of Flocculation Powder is included in the summary of quantities to establish a unit price only. Payment will be made based on the actual quantity (weight) of powder applied.

Basis of Payment: Furnishing and installing FLOCCULATION LOGS will be paid for at the contract unit price per each. Payment will be based on the actual number of logs used. Furnishing and applying FLOCCULATION POWDER will be paid for at the contract unit price per pound. Payment will be based on the actual quantity of powder applied.

XX206400 MAILBOX POST

Effective: January 1, 2007

Description: This work shall consist of removing an existing mailbox from an existing broken or rotted post, and installing it on a new wood post.

General: *This work shall consist of removing the existing mailbox from a broken or rotted post, and installing it on a new 4" x 4" square or 4½" diameter round treated wood post. The new post shall be embedded no more than 24" into the ground. The resulting hole shall be backfilled with suitable excavated material as approved by the Engineer.*

The old post shall be disposed of according to the requirements of Article 202.03 of the "Standard Specifications".

The Engineer shall be the sole judge of when a new post is needed.

Method of Measurement: This work will be measured for payment as individual items and the unit of measurement will be each. The removal and disposal of the old post and backfilling the hole shall be incidental to this item.

Basis of Payment: This work will be paid for at the contract unit price per each for MAILBOX POST.

XZ161800 TRAILER MOUNTED ARROW BOARD, TYPE B

Description: The Contractor shall furnish, install, maintain, relocate, and remove TRAILER MOUNTED ARROW BOARD, TYPE B as shown on the plans. The arrow boards shall be installed in accordance with section 701 of the "Standard Specifications".

Equipment: The equipment used for TRAILER MOUNTED ARROW BOARD, TYPE B shall be in accordance with Article 701.03 items (I) of the "Standard Specifications".

Method of Measurement: TRAILER MOUNTED ARROW BOARD, TYPE B will be measured for payment in each.

Basis of Payment: This work will be paid for at the contract unit price per each TRAILER MOUNTED ARROW BOARD, TYPE B. The unit price shall include the furnishing, installation, maintenance, relocation, and removal of the arrow board for the duration of the proposed construction stage.

Z0001050 AGGREGATE SUBGRADE, 12"

Effective: January 1, 2007

Description: This work shall consist of furnishing and constructing a 12" thick aggregate subgrade on a prepared subbase. The subgrade shall be placed in 2 lifts.

Materials: The aggregate in the first lift shall be a porous granular embankment according to Article 1004.05 of the "Standard Specifications" except as follows:

Only Crushed Stone, Crushed Blast Furnace Slag, or Crushed Concrete meeting the requirements in the table will be permitted.

Sieve Size	Percent Passing
6"	97 +/- 3
4"	90 +/- 10
2"	45 +/- 25
#200	5 +/- 5

Steel slag and other expansive materials will not be permitted.

The aggregate in the second lift shall be a capping aggregate. The material shall be limited to the following:

- a) *Crushed Stone, Crushed Blast Furnace Slag, Crushed Concrete, and Crushed Gravel having a gradation CA 6 in accordance with the requirements of Article 1004.01 of the "Standard Specifications". Steel slag and other expansive materials will not be permitted.*
- b) *Reclaimed asphalt pavement (RAP) meeting the requirements of Section 1031 of the "Standard Specifications" and the following:*
 - *100% passing the 3 inch sieve.*
 - *Well graded down through fines.*
 - *The RAP shall not contain steel slag or other expansive material. RAP proposed for use as a capping aggregate shall be tested by the Department to determine if it is expansive or not. Non-expansive RAP will be allowed for use in the capping aggregate.*

Equipment: A vibratory roller according to Article 1101.01(g) of the "Standard Specifications" shall be used to roll each lift of material.

Construction Requirements: *The first lift shall be 8" thick. The material shall be a porous granular embankment. The work shall be done according to the applicable portions of Section 207 of the "Standard Specifications". The second lift shall be a 4" (nominal) thick capping aggregate. The work shall be done in according to the applicable portions of Section 351 of the "Standard Specifications".*

A vibratory roller shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

Method of Measurement: Aggregate Subgrade, 12" will be measured for payment in square yards according to Article 311.08(b) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per square yard for AGGREGATE SUBGRADE, 12". The unit price shall include the furnishing and placing of both materials.

Z0013798 CONSTRUCTION LAYOUT

Effective: January 1, 2007

Description: This work shall consist of furnishing and placing construction lay out stakes for the project.

General: *The Lake County Division of Transportation (LCDOT) will provide adequate reference points to the centerline of survey and bench marks as shown on the plans and listed herein. Any additional points set by LCDOT will be identified in the field to the Contractor and all field notes will be kept in the office of the Engineer.*

The Contractor shall provide field forces, equipment, and material necessary to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal or vertical controls, including supplementary bench marks, necessary to secure a correct layout of the work. Stakes for line and grade of pavement and/or curb shall be set at sufficient station intervals (not to exceed 50 ft.) to assure substantial conformance to plan line and grade. The Contractor will not be required to set additional stakes to locate a utility line which is not included as a pay item in the contract or to determine property lines between private properties.

The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades, and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset at his/her expense when any are damaged, lost, displaced, or removed or otherwise obliterated.

Responsibilities of LCDOT:

- a) *LCDOT will locate and reference the centerline of all roads and streets except interchange ramps. The centerline of private entrances and short street intersection returns may not be located or referenced.*

Locating and referencing the centerline of survey will consist of establishing and referencing the control points of the centerline of surveys such as PC's, PT's as many POT's as are necessary to provide line of sight.

- b) *Bench marks will be established along the project outside of construction lines not exceeding intervals of 1000 feet horizontally and 20 feet vertically.*
- c) *Stakes set for a) and b) above will be identified in the field to the Contractor.*

- d) *LCDOT will make random checks of the Contractor's staking to determine if the work is in conformance with the plans. Where the Contractor's work will tie into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.*
- e) *LCDOT will set all stakes for utility adjustments and for building fences along the right of way line by parties other than the Contractor.*
- f) *LCDOT will make all measurements and take all cross sections from which the various pay items will be measured.*
- g) *Where the Contractor, in setting construction stakes, discovers discrepancies, LCDOT will check to determine their nature and make whatever revisions are necessary in the plans, including the re-cross sectioning of the area involved. Any additional re-staking required by the Engineer will be the responsibility of the Contractor. The additional re-staking done by the Contractor will be paid for according to Article 109.04 of the "Standard Specifications".*
- h) *LCDOT will accept responsibility for the accuracy of the initial control points as provided herein.*
- i) *It is not the responsibility of LCDOT, except as provided herein, to check the correctness of the Contractor's stakes; any apparent errors will be immediately called to the Contractor's attention and he/she shall be required to make the necessary correction before the stakes are used for construction purposes.*
- j) *Where the plan quantities for excavation are to be used as the final pay quantities, LCDOT will make sufficient checks to determine if the work has been completed in conformance with the plan cross sections.*

Responsibilities of the Contractor:

- a) *The Contractor shall establish from the given survey points and bench marks all the control points necessary to construct the individual project elements. The Contractor shall provide the Engineer adequate control in close proximity to each individual element to allow adequate checking of construction operations. This includes, but is not limited to; line and grade stakes, line and grade nails in form work, and/or filed or etched marks in substantially completed construction work.*

It is the Contractor's responsibility to tie in centerline control points in order to preserve them during construction operations.

It is the contractor's responsibility to set right-of-way stakes prior to the Installation of Silt Filter Fence(s) or disturbance of any soil. These stakes shall be set at 100 ft station intervals and maintained throughout the project.

- b) *At the completion of the grading operations, the Contractor shall set stakes at 100 ft. station intervals along each profile grade line. These stakes will be used for final cross sectioning by the Division of Transportation.*
- c) *The Contractor shall locate the right of way points for the installation of right-of-way markers. The Contractor shall set all line stakes for the construction of fences by the Contractor.*
- d) *All work shall be in accordance with normally accepted self checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Division of Transportation at the completion of the project. All notes shall be neat, orderly and in accepted form.*
- e) *For highway structure staking, the Contractor shall use diligent care and appropriate accuracy. Points shall be position to allow reuse throughout the construction process. Prior to the beginning of construction activities, all structure centerlines and pier lines are to be established by the Contractor and checked by the Engineer. The Contractor shall provide a detailed structure layout drawing showing span dimensions, staking lines and offset distances.*
- f) *The Contractor shall layout approximate locations of all landscaping items including, but not limited to proposed trees. The Contractor shall layout all proposed trees for final approval of the engineer prior to planting. Trees are shown in the plans in approximate locations and shall be the Contractor's responsibility to determine acceptable locations as approved by the Engineer.*

Basis of Payment: This work will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT.

Z0062400 SAWING BITUMINOUS CONCRETE PAVEMENT

Effective: January 1, 2007

Description: This work shall consist of saw cutting existing pavement to a full depth, at the locations shown on the plans or as directed by the Engineer.

Equipment: The equipment used for saw cutting shall be equipment listed in Article 442.03 items (d) and (e) of the "Standard Specifications".

General: *The saw cut shall yield a workable, neat, straight and perpendicular surface as an edge for new pavement placement, proposed curb and gutter or other such work. It shall be the Contractor's responsibility to determine the depth and composition of the existing pavement.*

Method of Measurement: Sawing Hot-Mix Asphalt Pavement will be measured for payment in place in feet. *Saw cuts required for pavement patching, pavement removal and replacement, butt joints (limits of construction on roads or entrances), or asphalt shoulder removal and replacement will not be included in this pay item, but shall be paid for as a part of the respective pay item.*

Basis of Payment: This work will be paid for at the contract unit price per foot for SAWING BITUMINOUS CONCRETE PAVEMENT.

LAKE COUNTY PAY ITEMS

BACKER MATERIAL

Effective: May 1, 2007

Description: This work shall consist of installing backer material in transverse and longitudinal cracks, contraction joints or centerline cracks where the depth of the crack exceeds $\frac{3}{4}$ ".

Materials: *The backer material shall be a closed-cell, plastic-foam, heat resistant, chemically inert, waterproof rod compatible with the sealant used and shall be according to Article 1051.08 of the "Standard Specifications".*

General: The work shall be performed according to Section 451 of the "Standard Specifications" and the following:

The void shall be routed (if necessary) to provide a depth from the top of the backer rod to the top of the pavement of $\frac{3}{4}$ ". The Engineer shall determine the areas where the backer rod will be required. The backer material diameter shall be $\frac{1}{8}$ " wider than the routed joint.

Method of Measurement: *Backer material will be measured for payment in feet along the cracks where the material is installed.*

Basis of Payment: *BACKER MATERIAL will be paid for at the contract unit price per foot.*

INSTALL SURVEY MONUMENTS

Effective: January 1, 2007

Description: *This work shall consist of installing survey monuments at the locations shown on the plans.*

Materials: *LCDOT will supply the survey monuments. The Contractors shall supply all the materials necessary to install the monument.*

General: *After the final surface course has been placed the Engineer will install four Mag™ nails for each point to be monumented. The Contractor shall use the following procedure to install the survey monuments:*

1. *At each location there are four Mag™ nails in the surface. Each nail is one foot from the center and in direct line with an opposite nail to be used for setting the new monument.*
2. *By the use of a hammer drill mounted with a 1¼" diameter masonry bit, center the bit within the four Mag™ nails and drill a hole 4½" deep.*
3. *By the use of a drilling machine mounted with a 4 inch diamond core bit, center the core bit and cut a hole, ¾" deep. Chisel out the hole for a level depth of ¾".*
4. *Fill the hole with Poly-Carb, Inc. Mark-29.9 two-component epoxy adhesive or equivalent meeting all requirements of the ASTM Specification C881, Type IV, Grade 3 if temperature is at or above 50°F or AASHTO Specification M237-90, Table 2 Type III for the two component, epoxy adhesive if the temperature is between 31°F and 50°F with the approval by the Engineer before installation.*
5. *Place a new monument in the center of the hole. Set the monument so that the center of the legend top is ⅜" below the pavement surface. Aggregate can be used to adjust the monument if it needs to be raised to obtain the correct depth.*
6. *By using the four Mag™ nails and a string line or ⅛" chalk line, center the monument in the hole to the nearest 0.005 foot. This can be accomplished by drawing the string across two diagonally opposite Mag™ nails.*
7. *Each monument shall be protected from traffic for a minimum of 90 minutes.*

Basis of Payment: *This work will be paid for at the contract unit price per each for INSTALL SURVEY MONUMENTS. The unit price shall include all work and materials required to complete the installation.*

ELECTRIC CABLE IN CONDUIT, NO. 18 3C, VIDEO

Effective: November 5, 2007

Description: This work shall consist of furnishing and installing an electric cable, video, in an existing and/or new conduit to connect an Autoscope Terra camera to the traffic signal cabinet.

Materials:

The electric cable shall be a Whitmore/Wirenetics cable number W-3532-2493, or an approved equal.

A HARTING Han 3 A connector, or an approved equal, shall be used to attach the cable to the camera.

General: The work shall be performed according to the applicable portions of Section 873 of the "Standard Specifications", and details as shown on the plans.

Method of Measurement: The Electric Cable in Conduit, No. 18, 3/C, Video will be measured for payment in feet.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, NO. 18, 3/C, VIDEO. The unit price shall include furnishing, installing, and making all electrical connections necessary for proper operation. Furnishing and installing the HARTING Han 3 A connector, or approved equal will be incidental to this pay item.

RELOCATE EXISTING REMOTE-CONTROLLED VIDEO SYSTEM

This item shall be in accordance with the Lake County Division of Transportation Traffic Signal Special Provisions except that it shall include the following:

The pay item shall include the relocation of the existing remote controlled video system near the end of the luminaire arm as shown on the Video Detection Camera(s) and PTZ Camera Mounting Detail on the Standard Traffic Signal Design Detail sheet (Sheet 2 of 2).

This will include furnishing and installing a PELCO WCS Series Power Supply, PELCO SMR 1-NRT9 mounting bracket and all associated mounting hardware, connectors, and related equipment necessary to complete the relocation in accordance with the detail and the manufacturer's specifications.

The pay item shall also include the relocation of the existing CDX 350 video encoder, the CYSKO video layer II switch, and any other equipment used to transmit data back to the Lake County Division of Transportation.

IDOT DISTRICT 1 SPECIAL PROVISIONS

USE OF RAP (dist 1)

Effective: January 1, 2007

Revised: January 7, 2009

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

Revise Section 1031 of the Standard Specifications to read:

"SECTION 1031. Reclaimed Asphalt Pavement

1031.01 Description. Reclaimed asphalt pavement (RAP) results from the cold milling or crushing of an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction. The contractor can also request that a processed pile be tested by the Department to determine the aggregate quality.

1031.02 Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type and size as listed below (i.e. "Homogenous Surface").

Prior to milling or removal of an HMA pavement, the Contractor may request the District to provide verification of the existing mix composition to clarify appropriate stockpile.

(a) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogenous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.

(b) Conglomerate 5/8. Conglomerate 5/8 RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate 5/8 RAP shall be processed prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate 5/8 RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(c) Conglomerate 3/8. Conglomerate 3/8 RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least B quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate 3/8 RAP shall be processed prior to testing by crushing to where all RAP shall pass the 3/8 in (9.5 mm) or smaller screen. Conglomerate 3/8 RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(d) Conglomerate Variable Size. Conglomerate variable size RAP shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least B quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate variable size RAP shall be processed prior to testing by crushing and screening to where all RAP is separated into various sizes. All the conglomerate variable size RAP shall pass the 3/4 in. (19 mm) screen and shall be a minimum of two sizes. Conglomerate variable size RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(e) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from Class I, Superpave (High or Low ESAL), HMA (High or Low Esal), or equivalent mixtures. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ Rap stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(f) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

1031.03 Testing. When used in HMA, the RAP shall be sampled and tested either during or after stockpiling.

For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

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

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(a) Testing Conglomerate 3/8 and Conglomerate Variable Size. In addition to the requirements above, conglomerate 3/8 and variable size RAP shall be tested for maximum theoretical specific gravity (Gmm) at a frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(b) Evaluation of Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation and, when applicable Gmm. Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	Homogeneous / Conglomerate	Conglomerate "D" Quality
1 in. (25 mm)		± 5 %
3/4 in. (19mm)		
1/2 in. (12.5mm)	± 8 %	± 15 %
No. 4 (4.75 mm)	± 6 %	± 13 %
No. 8 (2.36 mm)	±5 %	
No. 16 (1.18 mm)		± 15 %
No. 30 (600 µm)	± 5. %	
No. 200 (75 µm)	± 2.0 %	± 4.0 %
Asphalt Binder	± 0.4 % 1/	± 0.5 %
Gmm	±0.02 % 2/	
Gmm	±0.03 % 3/	

1/ The tolerance for conglomerate 3/8 shall be ± 0.3 %.

2/ Applies only to conglomerate 3/8. When variation of the Gmm exceeds the ± 0.02 % tolerance, a new conglomerate 3/8 stockpile shall be created which will also require an additional mix design.

3/ Applies only to conglomerate variable size. When variation of the Gmm exceeds the ± 0.03 tolerance, a new conglomerate variable size stockpile shall be created which will also require an additional mix design.

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt binder content test results fall outside the appropriate tolerances, the RAP shall not be used in HMA unless the RAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

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

1031.04 Quality Designation of Aggregate in RAP.
The quality of the RAP shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

(a) RAP from Class I, Superpave (High ESAL), or HMA (High ESAL) surface mixtures are designated as containing Class B quality coarse aggregate.

(b) RAP from Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder and IL-9.5L surface mixtures are designated as Class D quality coarse aggregate.

(c) RAP from Class I, Superpave (High ESAL), or HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.

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

1031.05 Use of RAP in HMA. The use of RAP in HMA shall be as follows.

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

(b) Steel Slag Stockpiles. RAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) surface mixtures only.

(c) Use in HMA Surface Mixtures (High and Low ESAL). RAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be either homogeneous or conglomerate 3/8 or variable size in which the coarse aggregate is Class B quality or better.

(d) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be homogeneous, conglomerate 5/8, or conglomerate 3/8, conglomerate variable size, in which the coarse aggregate is Class C quality or better.

(e) Use in Shoulders and Subbase. RAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be homogeneous, conglomerate 5/8, conglomerate 3/8, conglomerate variable size, or conglomerate DQ.

(f) The use of RAP shall be a contractor's option when constructing HMA in all contracts. When the contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in the table for a given N Design.

Max Mix Rap Percentage

HMA Mixtures 1/ 3/		Maximum % Rap	
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified
30	30/40 2/	30	10
50	25/40 2/	15/25 2/	10
70	25/30 2/	10/20 2/	10
90	10/15 2/	10/15 2/	10
105	10/15 2/	10/15 2/	10

- 1/ For HMA Shoulder and Stabilized Sub-Base (HMA) N-30, the amount of RAP shall not exceed 50% of the mixture.
- 2/ Value of Max % RAP If 3/8 Rap or conglomerate variable size RAP is utilized.
- 3/ When RAP exceeds 20% the AC shall be PG58-22. However, when RAP exceeds 20% and is used in full depth HMA pavement the AC shall be PG58-28.

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

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 HMA mix 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.

1031.07 HMA Production. The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

To remove or reduce agglomerated material, a scalping screen, 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. When producing mixtures containing conglomerate 3/8 or conglomerate variable size RAP, a positive dust control system shall be utilized.

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

(a) Drier Drum Plants

(1) Date, month, year, and time to the nearest minute for each print.

(2) HMA Mix number assigned by the Department

(3) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton)

(4) Accumulated dry weight of RAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton)

(5) Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

(6) Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.

(7) Residual asphalt binder in the RAP material (per size) as a percent of the total mix to the nearest 0.1 unit.

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

(b) Batch Plants

(1) Date, month, year, and time to the nearest minute for each print.

(2) HMA mix number assigned by the Department.

(3) Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram)

(4) Mineral filler weight to the nearest pound (kilogram).

(5) Individual RAP Aggregate weight to the nearest pound (kilogram).

(6) Virgin asphalt binder weight to the nearest pound (kilogram)

(7) Residual asphalt binder of each RAP size material as a percent of the total mix to the nearest 0.1 percent.

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

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

(a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Other". The testing requirements of Article 1031.03 shall not apply.

(b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted."

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

Effective: May 1, 2007

Revised: May 1, 2009

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

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

FINE AGGREGATE GRADATIONS (metric)					
Grad No.	Sieve Size and Percent Passing				
	9.5 mm	4.75 mm	2.36 mm	1.16 mm	0.075 mm
FA 22	100	6/	6/	8±8	2±2

6/ For the fine aggregate gradations FA 22, the aggregate producer shall set the midpoint percent passing and a range of ± 10% shall be applied. The midpoint shall not be changed without Department approval.

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

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

TEMPERATURE CONTROL FOR CONCRETE PLACEMENT (DISTRICT ONE)

Effective: May 1, 2007

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

HOT MIX ASPHALT – DENSITY TESTING OF LONGITUDINAL JOINTS (D-1)

Effective: January 1, 2007

Revised: January 8, 2009

Description: This work shall consist of testing the density of longitudinal joints as part of the quality control / quality assurance (QC/QA) of hot-mix asphalt (HMA). This work shall be according to Section 1030 of the Standard Specifications except as follows.

Definitions:

Density Test Location: The station location used for density testing.

Density Test Site: Individual test site where a single density value is determined.

Density Reading: A single, one minute nuclear density reading.

Density Value: The density determined at a given density test site from the average of two "density readings".

Quality Control / Quality Assurance (QC/QA)

1030.05(d) (3) add the following paragraphs:

Longitudinal joint density testing shall be performed at each random "density test location". Longitudinal joint testing shall be located at a distance equal to the lift thickness, or a minimum of two inches, from each pavement edge. For Example, on a four inch HMA lift the near edge of the nuclear gauge or core barrel shall be within four inches from the edge of pavement. The remaining 3 density test sites shall be equally spaced between the two edge readings. Documentation shall indicate whether the joint was confined or unconfined.

The joint density value shall be determined using either a correlated nuclear gauge or cores. When using a correlated nuclear gauge, two "density readings" shall be taken at the given density test site. The gauge shall be rotated 180 degrees between "density readings". If the two "density readings" are not within 1.5 lb/cu ft (23 kg/cu m) then one additional "density reading" shall be taken. Additional "density readings" taken at a given site shall not be allowed to replace the original "density readings" unless an error has occurred (i.e. the nuclear gauge was sitting on debris).

1030.05(d) (4) Replace the density control limits table with the following:

DENSITY CONTROL LIMITS			
Mixture Composition	Parameter	Individual Test ^{2/}	Minimum Unconfined Test
IL-9.5, IL-12.5	Ndesign ≥ 90	92.0 – 96.0 %	90.0 %
IL-9.5, IL-9.5L, IL-12.5	Ndesign < 90	92.5 – 97.4 %	90.0 %
IL-19.0, IL-25.0	Ndesign ≥ 90	93.0 – 96.0 %	90.0 %
IL-19.0, IL-19.0L, IL-25.0	Ndesign < 90	93.0 – 97.4 %	90.0 %
All Other	Ndesign = 30	93.0 ^{1/} - 97.4 %	90.0 %

- 1/ 92.0 % when placed as first lift on an unimproved subgrade.
- 2/ "Density values" shall meet the "Individual Test" density control limits specified herein.

EPOXY COATING ON REINFORCEMENT (DISTRICT ONE)

Effective: January 1, 2007

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

MAINTENANCE OF ROADWAYS

Effective: September 30, 1985

Revised: November 1, 1996

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

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

SPECIAL PROVISION
FOR
CONSTRUCTION DEBRIS

Effective October 18, 1999

Add the following to the third paragraph of Article 202.03 of the Standard Specifications:

“The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads that is not commingled with any waste, without the maintenance of documentation identifying the hauler, generator, place of origin of the debris or soil, the weight or volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred, disposed, recycled or treated. This documentation must be maintained by the Contractor for 3 years.”

CONSTRUCTION DEBRIS MANIFEST

Ticket No. _____

Contract No. _____

Generator _____

Hauler _____

Truck No. _____

Description of Material

Approximate Weight of Material _____

Approximate Volume of Material _____

Disposition of Material:

Location: _____

Date: _____

Time: _____

Owner: _____

Operator: _____



Borrow/Waste/Use Area Coordinator (217) 782-4771

A. Submittal Date: 05/29/09 Requesting Agency: [] DOH [] DOA [x] Local [] Other: Previous survey request(s) submitted for this project? [] Yes [x] No Addendum # Date(s) of prior submittal(s): N/A

B. Route: CH45 Marked: A22 County(ies): LAKE District: 1 Section: 02-00110-12-WR Project No.: M-8003(506) Job No.: P- C- 91-187-05 Contract No.: 63209

C. [x] Borrow/ [x] Waste/ [] Use Area Location (Check each which applies.): The project anticipates the additional need for 4,016 CU YD of Furnished Excavation during stage 1 construction. Also, the project earthwork balance is anticipated to have an excess of 13,378 CU YD that will need to be removed from the site, of which, 9,438 CU YD of material is unsuitable and 3,940 CU YD is suitable material.

D. 0.00 m³ (0.00 yds³) borrow from this area. Borrow/Waste/Use Area Size: 0.00 ha. (acres) Current Land Use (Check each which applies.): [] Timber [] Row Crops [] Pasture [] Other (Describe): N/A

E. Name of Contractor: N/A Contact Person: N/A Phone: N/A Address: N/A Name of District/Local Resident Engineer: N/A Phone: N/A

F. Has Borrow Area been approved by Bureau of Materials? (Check one.) [] Yes [] No [x] Not Applicable Date of Approval:

G. This request is number 1 of 1 requests for this project.

(LEAVE THIS SPACE BLANK)

ATTACHMENTS REQUIRED



To whom it may concern:

I, said property owner, _____
(Name and Address of Property Owner)

do hereby grant to the State Historic Preservation Officer and the Illinois Transportation Archaeological Research Program (ITARP), or their agents, permission to survey and/or test excavate said property, located:

(Indicate location of property by county, range, township, section and sub-section, as necessary.)

(Signature of Property Owner)

(Name and Address of Property Owner)

I, _____ owner of said property, do hereby grant permission for the State Historic Preservation Officer and the Illinois Transportation Archaeological Research Program (ITARP), or their agents, acting on behalf of the Illinois Department Of Transportation, to remove artifacts found on said property and agree that all artifacts shall remain in public ownership, in the custody of the State Historic Preservation Officer and the University of Illinois, or their agents.

(Signature of Property Owner)

(Name and Address of Property Owner)



- 1. a. Phase I & II NPDES Storm Water Permit Requirements (Applicable to all projects involving soil disturbance of 1 acre (0.4 hectares) or more.

Will the project involve soil disturbance of 1 acre (0.4 hectares) or more?

- Yes The project must comply with the Phase II NPDES Storm Water Permit Requirements.
- No

- 2. Identify, by station, the known location of bridges and culverts. Indicate the anticipated size of each and the nature of the soil disturbance activity(ies) that each will involve (e.g., slope grading, channel shaping, watercourse

The plans indicate the size and locations of the proposed culverts.

- 3. Indicate the type and identify the location, by station, of any resources requiring special consideration for protection from sedimentation, such as wetlands, endangered and threatened species locations, or other resources involving special commitments for protection.

The plans indicate 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.

- 4. When possible, graphically indicate on a map or plan drawing the drainage areas; and soil types (via. County Soils Maps) in locations of the project to be affected by clearing and grubbing, excavation or placement of embankment. Also describe or indicate any locations in which known soil disturbance by others (e.g., for agricultural crop production) could introduce additional sediment within the project limits. Highly erodible soils will affect the complexity needed in the ESC plan.

The Soil Report, Wetland Investigation Report, Watershed Development Permit, or plans indicate the areas of major soil disturbance, drainage areas, and soil types.

- 5. When possible, graphically indicate on a map or plan drawing the locations in which routine practices such as ditch checks and perimeter silt fence will be used and indicate the type and location of other, non-routine practices recommended to use.

The plans contain indicate the location of major structural and nonstructural controls identified in the plan such as ditch checks and perimeter silt fence.

*Note: This form is NOT to take the place of the SWPPP, but is to provide information to go into the project report for the benefit of the R.E.



Route 1016

Marked A-22

Section 02-00110-12-WR

Project No. M-8003(506)

County LAKE

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency on August 11, 2008 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.

Andrew Smith Jr
Signature

5/29/09
Date

Certified Professional in Erosion and Sediment Control
Title

1. Site Description

a. The following is a description of the project location and the construction activity which is the subject of this plan:

The project improvements includes widening and reconstruction of Washington Street providing four through travel lanes (two in each direction) extended from 1200 feet east of Cemetery Road to approximately 640 feet west of Milwaukee Avenue.

Construction includes earth excavation, embankment, storm sewers, culverts and culvert end sections, manholes, inlets, various pavement items, traffic signals, bike path, retaining wall, striping, signing, landscaping and other miscellaneous items of construction.

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:

- Installation of soil erosion and sediment control measures
- Isolated tree removal as shown on the plans. Trees to remain will be protected against damage.
- Excavation and embankment will be completed along the job site to grade out for the proposed roadway and bike path and construct embankment and ditches.
- Construct the Culverts and end sections.
- Storm sewers, manholes, inlets and culvert extensions.
- Retaining walls and appurtenances
- Placement and maintenance of temporary erosion control, such as temporary ditch checks, inlet and pipe protection, temporary seeding, etc.
- Construction of pavement and bike path subbase and surface course.
- Final grading, landscaping, and other miscellaneous items.
- Placement of permanent erosion control, such as seeding, sod, erosion control blanket or stabilizing blanket, riprap, etc.

- c. The total area of the construction site is estimated to be 13.9 acres.
The total area of the site that it is estimated will be disturbed by excavation, grading or other activities 13.9 acres.
- d. The estimated runoff coefficients of the various areas of the site after construction activities for this project are 0.45. Information describing the soils at the site is contained in the Soils Report for the project, which is hereby incorporated by reference in this plan.
- 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.
- 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.

The receiving waters for runoff from this project is Warren Cemetery Tributary.

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. The contractor and subcontractors, will notify the resident engineer of any proposed changes, maintenance, or modifications to keep construction activities complaint with the permit. Each such contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

a. Erosion and Sediment Controls

- (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., in areas where work is complete, permanent stabilization shall occur within 7 days of completion. In areas where work has temporarily ceased for 21 days or more, temporary stabilization shall occur by the 14th day after work has ceased.
- (A) Where the initiation of stabilization measures by the 7th day after construction activity has permanently ceased or by the 14th day after construction activity has temporarily ceased is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

Description of Stabilization Practices:

During construction, areas outside the construction limits as outlined previously herein shall be protected. The contractor shall not use this area for staging (except as described on the plans and as directed by the engineer), parking of vehicles or construction equipment, storage of materials, or other construction related activities.

Within the construction limits, areas which may be susceptible to erosion as determined by the engineer shall remain undisturbed until full scale construction is underway to prevent unnecessary soil erosion.

Earth stockpiles shall be temporarily seeded if they are to remain unused for more than (14) fourteen days.

- a.) Place temporary erosion control facilities at locations shown on the erosion control plans.
- b.) Temporarily seed erodible bare earth on a bi-weekly basis to minimize the amount of erodible surface area within the contract limits.
- c.) Construct roadside ditches and provide temporary erosion control systems.
- d.) Temporarily divert water around proposed culvert locations.
- e.) Build necessary embankment at culvert locations and then excavate and place culvert.
- f.) Continue building up the embankment to the proposed grade while at the same time, placing permanent erosion control such as riprap ditch lining and conducting final shaping to the slopes.

Excavated areas and embankment shall be permanently seeded or sod within 7 days of final Grading. If not, they shall be temporarily seeded by the 14th day if no construction activity in the area is planned for 21 days or more.

Construction equipment shall be stored and fueled only at designated locations. All necessary Measures shall be taken to contain any fuel or other pollutant in accordance with EPA Water Quality Regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site.

The resident engineer shall inspect the project daily during construction activities. Inspection Shall also be done weekly and after rains of 1/2 inch or greater or equivalent snowfall and during The winter shutdown period. The project shall additionally be inspected by the construction field Engineer on a bi-weekly basis to determine that erosion control efforts are in place and effective And if other erosion control work is necessary.

Sediment collected during construction of the various temporary erosion control systems shall Be deposited on the site on a regular basis as directed by the engineer. The cost of this maintenance Shall be included in the unit bid price for earth excavation.

The temporary erosion control systems shall be removed as directed by the engineer after use is no longer needed or no longer functioning. The cost of this removal shall be included in the Unit Bid Price for various temporary erosion control pay items.

- (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, and rock outlet protection, reinforced soil retaining systems, gabions and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following Structural Practices will be used but not limit to:

- Perimeter Erosion Barrier
- Temporary Ditch Checks
- Storm Drain Inlet Protection
- Riprap

Description of Structural Practices: (All Structural Practices are shown in detail in the Erosion Control Plans.)

- 1) Perimeter erosion Barrier – Silt fence placed along the construction limits in an effort to contain silt and runoff from leaving the site.
- 2) Temporary Ditch Checks – Ditch Checks will be placed in swales where runoff velocity is high.
- 3) Inlet Protection – Inlet and pipe protection will be provided for storm sewers and culverts. Sediment Filters will be placed in all inlets, catch basins, and manholes and all structures will be cleaned during construction.
- 4) Riprap – Stone Riprap with Filter Fabric will be used as protection at all culverts and end section.

b. Storm Water Management

- (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 59-8 (Erosion and Sediment Control) in Chapter 59 (Landscape Design and Erosion Control) of the Illinois Department of Transportation Bureau of Design and Environment Manual. If practices other than those discussed in Section 59-8 are selected for implementation or if practices are applied to situations different from those covered in Section 59-8, 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 hydro period and hydrodynamics present prior to the initiation of construction activities).

Description of Storm Water Management Controls:

Temporary ditch checks shall be located at every 1.5 ft. Fall/rise in ditch grade or minimum 200 feet, whichever is closer.

Temporary erosion control seeding shall be applied at a rate of 100 lbs/acres.

Straw bales, hay bales, perimeter erosion barrier and silt fences will not be permitted for temporary or permanent ditch checks. Ditch checks shall be composed of aggregate, silt panels, rolled excelsior, urethane foam/goetextile (silt wedges), and/or other material approved by the engineer.

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, 2002. 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:

The drawings, specifications and special provisions will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices include: temporary seeding, permanent seeding, mulching, erosion control blanket, sod and erosion control blocking, protection of trees, preservation of nature vegetation, and other appropriate measures as directed by the engineer.

Areas of existing vegetation (wood and grasslands) outside the proposed construction limits shall be identified by the engineer for preserving and shall be protected from construction activities.

Dead, diseased, or unsuitable vegetation within the site shall be removed as directed by the engineer, along with required tree removal.

As soon as reasonable access is available to all locations where water drains away from the project, temporary ditch checks, inlet and pipe protection, and perimeter erosion barrier shall be installed as called out in this plan and directed by the engineer.

Bare and sparsely vegetated ground in high erodible areas as determined by the Engineer shall be temporarily seeded when no construction activities are expected within (14) fourteen days.

3. Maintenance

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan:

Construction is complete after acceptance by Lake County's final inspection and signoff that all punch-list items have been completed. Maintenance of temporary and permanent erosion control systems up to this date will be by the contractor.

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 offsite 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.

- A. Spill Prevention and Control – BMPs (Best Management Practice) shall be implemented to contain and clean-up spills and prevent material discharges to storm drain system. The contractor shall produce a written plan stating how his/her company will prevent, report, and clean up spills and provide a copy to all of his/her employees and the resident engineer. The contractor shall notify the resident engineer of any spills immediately.
- B. Concrete Residuals and Washout Wastes – The following BMPs shall be implemented to control residual concrete, concrete sediments, and rinse water:
 - Temporary Concrete Washouts Facilities shall be constructed for rinsing out concrete trucks. Sign shall be inserted directing concrete truck drivers where designated washout facilities are located.
 - The contractor shall have the location temporary concrete washout facilities approved by the resident engineer.
 - All temporary concrete washout facilities are to be inspected by the contractor after each use and all spills must be reported to the resident engineer and cleaned immediately.
 - Concrete waste solids/liquids shall be disposed of properly.
- C. Litter Management – A proper number of dumpsters shall be provided on site to handle debris and litter associated with the project. The contractor is responsible for ensuring his/her employees place all litter including marking paint cans, soda cans, food wrappers, wood lathe, marking ribbon, construction string, and all other construction related litter in proper dumpsters.
- D. Vehicle and Equipment cleaning – Vehicles and equipment are to be cleaned in designated areas only, preferably offsite.
- E. Vehicle and Equipment Fueling – A variety of BMPs can be implemented during fueling of vehicles and equipment to prevent pollution. The contractor shall inform the resident engineer as to which BMPs will be used on the project. The contractor shall inform the resident engineer how he/she will be informing his/her employees of these BMPs (i.e. signs, training, etc.). Below are a few examples of these BMPs:
 - Containment
 - Spill Prevention and Control
 - Use of Drip Pans and Absorbents
 - Automatic Shut-Off Nozzles
 - Topping Off Restrictions
 - Leak Inspection and Repair
- F. Vehicle and Equipment Maintenance – On site maintenance must be performed in accordance with all environmental laws such as proper storage and no dumping of old engine oil or other fluids on site.

6. Failure to Comply

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in implementation of an Erosion and Sediment Control Deficiency deduction against the contractor and/or penalties under the NPDES permit which could be passed onto the contractor.



This certification statement is a part of the Storm Water Pollution Prevention Plan for the project described below, in accordance with NPDES Permit No. ILR10, issued by the Illinois Environmental Protection Agency on May 14, 1998.

Project Information:

Route 1016

Marked WASHINGTON STREET

Section 02-00110-12-WR

Project No. M-8003 (506)

County LAKE

I certify under penalty of law that I understand the terms of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR 10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature

Date

Title

Name of Firm

Street Address

City State

Zip Code

Telephone Number



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
<http://dnr.state.il.us>

Pat Quinn, Governor
Marc Miller, Director

Office of Water Resources • 2050 West Stearns Road • Bartlett, Illinois 60103

July 14, 2009

SUBJECT: Permit No. NE2009050
Washington Street Culvert Replacement
Warren Cemetery Tributary
Lake County
Application No. 2008207

Martin G. Buehler, P.E.
Lake County Division of Transportation
600 West Winchester Road
Libertyville, Illinois 60048

Dear Mr. Buehler:

Enclosed is Illinois Department of Natural Resources, Office of Water Resources Permit No. NE2009050 authorizing the subject project. This permit does not supersede any other federal, state or local authorizations that may be required for the project.

Please be advised that the Illinois Department of Natural Resources, Office of Realty and Environmental Planning (OREP) participates in the regulatory programs of the U.S. Army, Corps of Engineers (USCOE) and may review this project if a USCOE Section 10 or 404 permit is required. Issuance of a permit by the Office of Water Resources does not preclude OREP's provision of comments and/or recommendations, primarily related to biological effects of the proposed action, to the USCOE and other federal agencies concerning your project.

If any changes of the permitted work are found necessary, revised plans should be submitted promptly to this office for review and approval. Also, this permit expires on the date indicated in Condition (13). If unable to complete the work by that date, the permittee may make a written request for a time extension.

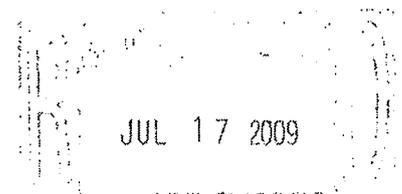
Please contact me at 847/608-3100, ext. 2025 if you have any questions.

Sincerely,

Gary W. Jereb, P.E., Chief
Northeastern Illinois Regulatory Programs Section

GJ:crw
Enclosure

cc: Chicago District, U.S. Army Corps of Engineers
Dawn Mirman, Crawford Murphy & Tilly, Inc.
Village of Gurnee Engineering Dept.
Lake County Stormwater Management Commission





PERMIT NO. NE2009050
DATE: July 14, 2009

State of Illinois
Department of Natural Resources, Office of Water Resources

Permission is hereby granted to:

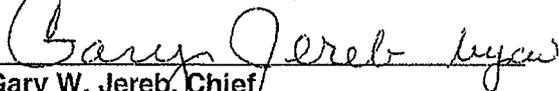
Lake County Division of Transportation
600 West Winchester Road
Libertyville, Illinois 60048

to construct a 120 ft. long, 10.0 ft. x 4.5 ft. replacement box culvert on Washington Street in the floodway of Warren Cemetery Tributary in the Southwest Quarter of Section 22, Township 45 North, Range 11 East of the Third Principal Meridian in Lake County,

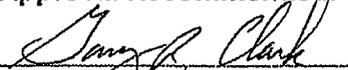
in accordance with an application dated December 8, 2008, and the plans and specifications entitled:

PROPOSED ROADWAY PLAN & PROFILE, SHEET 61 OF 206, DATED FEBRUARY 6, 2009, EROSION CONTROL PLAN, SHEET 89 OF 206, DATED FEBRUARY 6, 2009, PROPOSED BOX CULVERT DETAILS, SHEETS 114 AND 115 OF 206, DATED FEBRUARY 6, 2009, WASHINGTON STREET CROSS SECTIONS, SHEETS 143 TO 148 OF 206, DATED JULY 18, 2008, ALL SHEETS RECEIVED MARCH 25, 2009.

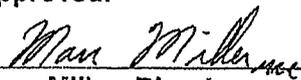
Examined and Recommended:


Gary W. Jereb, Chief
Northeastern IL Regulatory
Programs Section

Approval Recommended:


Gary R. Clark, Director
Office of Water Resources

Approved:


Marc Miller, Director
Department of Natural Resources

This PERMIT is subject to the terms and special conditions contained herein.

THIS PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

- 1) This permit is granted in accordance with the Rivers, Lakes and Streams Act "615 ILCS 5."
- 2) This permit does not convey title to the permittee or recognize title of the permittee to any submerged or other lands, and furthermore, does not convey, lease or provide any right or rights of occupancy or use of the public or private property on which the activity or any part thereof will be located, or otherwise grant to the permittee any right or interest in or to the property, whether the property is owned or possessed by the State of Illinois or by any private or public party or parties.
- 3) This permit does not release the permittee from liability for damage to persons or property resulting from the work covered by this permit, and does not authorize any injury to private property or invasion of private rights.
- 4) This permit does not relieve the permittee of the responsibility to obtain other federal, state or local authorizations required for the construction of the permitted activity; and if the permittee is required by law to obtain approvals from any federal or state agency to do the work, this permit is not effective until the federal and state approvals are obtained.
- 5) The permittee shall, at the permittee's own expense, remove all temporary piling, cofferdams, false work, and material incidental to the construction of the project. If the permittee fails to remove such structures or materials, the Department may have removal made at the expense of the permittee.
- 6) In public waters, if future need for public navigation or other public interest by the state or federal government necessitates changes in any part of the structure or structures, such changes shall be made by and at the expense of the permittee or the permittee's successors as required by the Department or other properly constituted agency, within sixty (60) days from receipt of written notice of the necessity from the Department or other agency, unless a longer period of time is specifically authorized.
- 7) The execution and details of the work authorized shall be subject to the review and approval of the Department. Department personnel shall have the right of access to accomplish this purpose.
- 8) Starting work on the activity authorized will be considered full acceptance by the permittee of the terms and conditions of the permit.
- 9) The Department in issuing this permit has relied upon the statements and representations made by the permittee; if any substantive statement or representation made by the permittee is found to be false, this permit will be revoked; and when revoked, all rights of the permittee under the permit are voided.
- 10) In public waters, the permittee and the permittee's successors shall make no claim whatsoever to any interest in any accretions caused by the activity.
- 11) In issuing this permit, the Department does not ensure the adequacy of the design or structural strength of the structure or improvement.
- 12) Noncompliance with the conditions of this permit will be considered grounds for revocation.
- 13) If the construction activity permitted is not completed on or before December 31, 2012, this permit shall cease and be null and void.

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

SPECIAL PROVISION
FOR
INSURANCE

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

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

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

CV II Gurnee LLC

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

ALKALI-SILICA REACTION FOR CAST-IN-PLACE CONCRETE (BDE)

Effective: August 1, 2007
 Revised: January 1, 2009

Description. This special provision is intended to reduce the risk of a deleterious alkali-silica reaction in concrete exposed to humid or wet conditions. The special provision is not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate or sodium formate. The special provision shall not apply to the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy. The special provision shall also not apply to precast products or precast prestressed products.

Aggregate Expansion Values. Each coarse and fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department's Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will be assigned to limestone or dolomite coarse aggregates and 0.03 percent to limestone or dolomite fine aggregates (manufactured stone sand); however the Department reserves the right to perform the ASTM C 1260 test.

Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

AGGREGATE GROUPS			
Coarse Aggregate or Coarse Aggregate Blend ASTM C 1260 Expansion	Fine Aggregate or Fine Aggregate Blend ASTM C 1260 Expansion		
	$\leq 0.16\%$	$> 0.16\% - 0.27\%$	$> 0.27\%$
	$\leq 0.16\%$	Group I	Group II
$> 0.16\% - 0.27\%$	Group II	Group II	Group III
$> 0.27\%$	Group III	Group III	Group IV

Mixture Options. Based upon the aggregate group, the following mixture options shall be used; however, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silica reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

- Group I - Mixture options are not applicable. Use any cement or finely divided mineral.
- Group II - Mixture options 1, 2, 3, 4, or 5 shall be used.
- Group III - Mixture options 1, 2 and 3 combined, 4, or 5 shall be used.

Group IV - Mixture options 1, 2 and 4 combined, or 5 shall be used.

For Class PP-3 concrete the mixture options are not applicable, and any cement may be used with the specified finely divided minerals.

- a) Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used.

When a coarse or fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;
A, B, C... = expansion value for that aggregate.

- b) Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow. The replacement ratio is defined as "finely divided mineral:portland cement".

1) Class F Fly Ash. For Class PV, BS, MS, DS, SC, and SI concrete and cement aggregate mixture II (CAM II), Class F fly ash shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

2) Class C Fly Ash. For Class PV, MS, SC, and SI Concrete, Class C fly ash with 18 percent to less than 26.5 percent calcium oxide content, and less than 2.0 percent loss on ignition, shall replace 20 percent of the portland cement at a minimum replacement ratio of 1:1; or at a minimum replacement ratio of 1.25:1 if the loss on ignition is 2.0 percent or greater. Class C fly ash with less than 18 percent calcium oxide content shall replace 20 percent of the portland cement at a minimum replacement ratio of 1.25:1.

For Class PP-1, RR, BS, and DS concrete and CAM II, Class C fly ash with less than 26.5 percent calcium oxide content shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

3) Ground Granulated Blast-Furnace Slag. For Class PV, BS, MS, SI, DS, and SC concrete, ground granulated blast-furnace slag shall replace 25 percent of the portland cement at a minimum replacement ratio of 1:1.

For Class PP-1 and RR concrete, ground granulated blast-furnace slag shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

For Class PP-2, ground granulated blast-furnace slag shall replace 25 to 30 percent of the portland cement at a minimum replacement ratio of 1:1.

- 4) Microsilica or High Reactivity Metakaolin. Microsilica solids or high reactivity metakaolin shall be added to the mixture at a minimum 25 lb/cu yd (15 kg/cu m) or 27 lb/cu yd (16 kg/cu m) respectively.
- c) Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.60 percent. When aggregate in Group II is involved, any finely divided mineral may be used with a portland cement.
- d) Mixture Option 4. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.45 percent. When aggregate in Group II or III is involved, any finely divided mineral may be used with a portland cement.
- e) Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is ≤ 0.16 percent when performed on the aggregate in the concrete mixture with the highest ASTM C 1260 test result. The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. For latex concrete, the ASTM C 1567 test shall be performed without the latex. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$), a new ASTM C 1567 test will not be required.

Testing. If an individual aggregate has an ASTM C 1260 expansion value > 0.16 percent, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The ASTM C 1293 test shall be performed with Type I or II cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container or wick of absorbent material, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 or 1567 test result. The Engineer will not accept the result if the precision and bias for the test methods are not met.

The laboratory performing the ASTM C 1567 test shall either be accredited by the AASHTO Materials Reference Laboratory (AMRL) for ASTM C 227 under Portland Cement Concrete or Aggregate; or shall be inspected for Hydraulic Cement - Physical Tests by the Cement and Concrete Reference Laboratory (CCRL) and shall be approved by the Department. The laboratory performing the ASTM C 1293 test shall be inspected for Portland Cement Concrete by CCRL and shall be approved by the Department.

80186

ALKALI-SILICA REACTION FOR PRECAST AND PRECAST PRESTRESSED CONCRETE (BDE)

Effective: January 1, 2009

Description. This special provision is intended to reduce the risk of a deleterious alkali-silica reaction in precast and precast prestressed concrete exposed to humid or wet conditions. The special provision is not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate or sodium formate. The special provision shall not apply to the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy. The special provision shall also not apply to cast-in-place concrete.

Aggregate Expansion Values. Each coarse and fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department's Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will be assigned to limestone or dolomite coarse aggregates and 0.03 percent to limestone or dolomite fine aggregates (manufactured stone sand); however the Department reserves the right to perform the ASTM C 1260 test.

Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

AGGREGATE GROUPS			
Coarse Aggregate or Coarse Aggregate Blend ASTM C 1260 Expansion	Fine Aggregate or Fine Aggregate Blend ASTM C 1260 Expansion		
	≤ 0.16%	> 0.16% - 0.27%	> 0.27%
	≤ 0.16%	Group I	Group II
> 0.16% - 0.27%	Group II	Group II	Group III
> 0.27%	Group III	Group III	Group IV

Mixture Options. Based upon the aggregate group, the following mixture options shall be used; however, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silica reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

- Group I - Mixture options are not applicable. Use any cement or finely divided mineral.
- Group II - Mixture options 1, 2, 3, 4, or 5 shall be used.
- Group III - Mixture options 1, 2 and 3 combined, 4, or 5 shall be used.

Group IV - Mixture options 1, 2 and 4 combined, or 5 shall be used.

- a) Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used.

When a coarse or fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;
A, B, C... = expansion value for that aggregate.

- b) Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow. The replacement ratio is defined as "finely divided mineral:portland cement".
- 1) Class F Fly Ash. For Class PC concrete, precast products, and PS concrete, Class F fly ash shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.
 - 2) Class C Fly Ash. For Class PC Concrete, precast products, and Class PS concrete, Class C fly ash with 18 percent to less than 26.5 percent calcium oxide content, and less than 2.0 percent loss on ignition, shall replace 20 percent of the portland cement at a minimum replacement ratio of 1:1; or at a minimum replacement ratio of 1.25:1 if the loss on ignition is 2.0 percent or greater. Class C fly ash with less than 18 percent calcium oxide content shall replace 20 percent of the portland cement at a minimum replacement ratio of 1.25:1.
 - 3) Ground Granulated Blast-Furnace Slag. For Class PC concrete, precast products, and Class PS concrete, ground granulated blast-furnace slag shall replace 25 percent of the portland cement at a minimum replacement ratio of 1:1.
 - 4) Microsilica or High Reactivity Metakaolin. Microsilica solids or high reactivity metakaolin shall be added to the mixture at a minimum 25 lb/cu yd (15 kg/cu m) or 27 lb/cu yd (16 kg/cu m) respectively.
- c) Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.60 percent. When aggregate in Group II is involved, any finely divided mineral may be used with a portland cement.
- d) Mixture Option 4. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.45 percent. When aggregate in Group II or III is involved, any finely divided mineral may be used with a portland cement.
- e) Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is ≤ 0.16 percent when performed on the aggregate in

the concrete mixture with the highest ASTM C 1260 test result. The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$), a new ASTM C 1567 test will not be required.

Testing. If an individual aggregate has an ASTM C 1260 expansion value > 0.16 percent, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The ASTM C 1293 test shall be performed with Type I or II cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container or wick of absorbent material, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 or 1567 test result. The Engineer will not accept the result if the precision and bias for the test methods are not met.

The laboratory performing the ASTM C 1567 test shall either be accredited by the AASHTO Materials Reference Laboratory (AMRL) for ASTM C 227 under Portland Cement or Aggregate; or shall be inspected for Hydraulic Cement - Physical Tests by the Cement and Concrete Reference Laboratory (CCRL) and shall be approved by the Department. The laboratory performing the ASTM C 1293 test shall be inspected for Portland Cement Concrete by CCRL and shall be approved by the Department.

80213

**APPROVAL OF PROPOSED BORROW AREAS, USE AREAS, AND/OR WASTE AREAS
INSIDE ILLINOIS STATE BORDERS (BDE)**

Effective: November 1, 2008

Revise the title of Article 107.22 of the Standard Specifications to read:

**"107.22 Approval of Proposed Borrow Areas, Use Areas, and/or Waste Areas Inside
Illinois State Borders."**

Add the following sentence to the end of the first paragraph of Article 107.22 of the Standard Specifications:

"Proposed borrow areas, use areas, and/or waste areas outside of Illinois shall comply with Article 107.01."

80207

CEMENT (BDE)

Effective: January 1, 2007

Revised: April 1, 2009

Revise Section 1001 of the Standard Specifications to read:

"SECTION 1001. CEMENT

1001.01 Cement Types. Cement shall be according to the following.

- (a) Portland Cement. Acceptance of portland cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland cement shall be according to ASTM C 150, and shall meet the standard physical and chemical requirements. Type I or Type II may be used for cast-in-place, precast, and precast prestressed concrete. Type III may be used according to Article 1020.04, or when approved by the Engineer. All other cements referenced in ASTM C 150 may be used when approved by the Engineer.

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement. The total of all inorganic processing additions shall be a maximum of 4.0 percent by weight (mass) of the cement. However, a cement kiln dust inorganic processing addition shall be limited to a maximum of 1.0 percent. Organic processing additions shall be limited to grinding aids that improve the flowability of cement, reduce pack set, and improve grinding efficiency. Inorganic processing additions shall be limited to granulated blast-furnace slag according to the chemical requirements of AASHTO M 302, Class C fly ash according to the chemical requirements of AASHTO M 295, and cement kiln dust.

- (b) Portland-Pozzolan Cement. Acceptance of portland-pozzolan cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland-pozzolan cement shall be according to ASTM C 595 and shall meet the standard physical and chemical requirements. Type IP may be used for cast-in-place, precast, and precast prestressed concrete, except when Class PP concrete is used. The pozzolan constituent for Type IP shall be a maximum of 21 percent of the weight (mass) of the portland-pozzolan cement.

For cast-in-place construction, portland-pozzolan cement shall not be used in concrete mixtures when the air temperature is below 40 °F (4 °C) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to increase the cement or eliminate the cement factor reduction for a water-

reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b).

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement. Organic processing additions shall be limited to grinding aids as defined in (a) above. Inorganic processing additions shall be limited to cement kiln dust at a maximum of 1.0 percent.

- (c) Portland Blast-Furnace Slag Cement. Acceptance of portland blast-furnace slag cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland blast-furnace slag cement shall be according to ASTM C 595 and shall meet the standard physical and chemical requirements. Type IS portland blast-furnace slag cement may be used for cast-in-place, precast, and precast prestressed concrete, except when Class PP concrete is used. The blast-furnace slag constituent for Type IS shall be a maximum of 25 percent of the weight (mass) of the portland blast-furnace slag cement.

For cast-in-place construction, portland blast-furnace slag cement shall not be used in concrete mixtures when the air temperature is below 40 °F (4 °C) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to increase the cement or eliminate the cement factor reduction for a water-reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b).

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement. Organic processing additions shall be limited to grinding aids as defined in (a) above. Inorganic processing additions shall be limited to cement kiln dust at a maximum of 1.0 percent.

- (d) Rapid Hardening Cement. Rapid hardening cement shall be used according to Article 1020.04 or when approved by the Engineer. The cement shall be on the Department's current "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs", and shall be according to the following.
- (1) The cement shall have a maximum final set of 25 minutes, according to Illinois Modified ASTM C 191.
 - (2) The cement shall have a minimum compressive strength of 2000 psi (13,800 kPa) at 3.0 hours, 3200 psi (22,100 kPa) at 6.0 hours, and 4000 psi (27,600 kPa) at 24.0 hours, according to Illinois Modified ASTM C 109.
 - (3) The cement shall have a maximum drying shrinkage of 0.050 percent at seven days, according to Illinois Modified ASTM C 596.

(4) The cement shall have a maximum expansion of 0.020 percent at 14 days, according to Illinois Modified ASTM C 1038.

(5) The cement shall have a minimum 80 percent relative dynamic modulus of elasticity; and shall not have a weight (mass) gain in excess of 0.15 percent or a weight (mass) loss in excess of 1.0 percent, after 100 cycles, according to AASHTO T 161, Procedure B.

(e) Calcium Aluminate Cement. Calcium aluminate cement shall be used only where specified by the Engineer. The cement shall meet the standard physical requirements for Type I cement according to ASTM C 150, except the time of setting shall not apply. The chemical requirements shall be determined according to ASTM C 114 and shall be as follows: minimum 38 percent aluminum oxide (Al_2O_3), maximum 42 percent calcium oxide (CaO), maximum 1 percent magnesium oxide (MgO), maximum 0.4 percent sulfur trioxide (SO_3), maximum 1 percent loss on ignition, and maximum 3.5 percent insoluble residue.

1001.02 Uniformity of Color. Cement contained in single loads or in shipments of several loads to the same project shall not have visible differences in color.

1001.03 Mixing Brands and Types. Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall not be mixed or used alternately in the same item of construction unless approved by the Engineer.

1001.04 Storage. Cement shall be stored and protected against damage, such as dampness which may cause partial set or hardened lumps. Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall be kept separate."

80166

CONCRETE ADMIXTURES (BDE)

Effective: January 1, 2003

Revised: April 1, 2009

Replace the first paragraph of Article 1020.05(b) of the Standard Specifications to read:

"(b) Admixtures. The use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted when approved by the Engineer. Admixture dosages shall result in the mixture meeting the specified plastic and hardened properties. The Department will maintain an Approved List of Corrosion Inhibitors. Corrosion inhibitor dosage rates shall be according to Article 1020.05(b)(12). The Department will also maintain an Approved List of Concrete Admixtures, and an admixture technical representative shall be consulted when determining an admixture dosage from this list. The dosage shall be within the range indicated on the approved list unless the influence by other admixtures, jobsite conditions (such as a very short haul time), or other circumstances warrant a dosage outside the range. The Engineer shall be notified when a dosage is proposed outside the range. To determine an admixture dosage, air temperature, concrete temperature, cement source and quantity, finely divided mineral sources(s) and quantity, influence of other admixtures, haul time, placement conditions, and other factors as appropriate shall be considered. The Engineer may request the Contractor to have a batch of concrete mixed in the lab or field to verify the admixture dosage is correct. An admixture dosage or combination of admixture dosages shall not delay the initial set of concrete by more than one hour. When a retarding admixture is required or appropriate for a bridge deck or bridge deck overlayer pour, the initial set time shall be delayed until the deflections due to the concrete dead load are no longer a concern for inducing cracks in the completed work. However, a retarding admixture shall not be used to further extend the pour time and justify the alteration of a bridge deck pour sequence.

When determining water in admixtures for water/cement ratio, the Contractor shall calculate 70 percent of the admixture dosage as water, except a value of 50 percent shall be used for a latex admixture used in bridge deck latex concrete overlays."

Revise Section 1021 of the Standard Specifications to read:

"SECTION 1021. CONCRETE ADMIXTURES

1021.01 General. Admixtures shall be furnished in liquid form ready for use. The admixtures shall be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer and trade name of the material. Containers shall be readily identifiable as to manufacturer and trade name of the material they contain.

Corrosion inhibitors will be maintained on the Department's Approved List of Corrosion Inhibitors. All other concrete admixture products will be maintained on the Department's

Approved List of Concrete Admixtures. For the admixture submittal, a report prepared by an independent laboratory accredited by the AASHTO Materials Reference Laboratory (AMRL) for Portland Cement Concrete shall be provided. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications. However, for corrosion inhibitors the ASTM G 109 test information specified in ASTM C 1582 is not required to be from an independent lab. All other information in ASTM C 1582 shall be from an independent lab.

Tests shall be conducted using materials and methods specified on a "test" concrete and a "reference" concrete, together with a certification that no changes have been made in the formulation of the material since the performance of the tests. Per the manufacturer's option, the cement content for all required tests shall either be according to applicable specifications or 5.65 cwt/cu yd (335 kg/cu m). Compressive strength test results for six months and one year will not be required.

Prior to the approval of an admixture, the Engineer reserves the right to request a sample for testing. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 5.65 cwt/cu yd (335 kg/cu m). For freeze-thaw testing, the Department will perform the test according to AASHTO T 161, Procedure B. The flexural strength test will be performed according to AASHTO T 177. If the Engineer decides to test the admixture, the manufacturer shall submit AASHTO T 197 water content and set time test results on the standard cement used by the Department. The test and reference concrete mixture shall contain a cement content of 5.65 cwt/cu yd (335 kg/cu m). The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by AASHTO.

The manufacturer shall include in the submittal the following admixture information: the manufacturing range for specific gravity, the midpoint and manufacturing range for residue by oven drying, and the manufacturing range for pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

For air-entraining admixtures according to Article 1021.02, the specific gravity allowable manufacturing range shall be established by the manufacturer and the test method shall be according to ASTM C 494. For residue by oven drying and pH, the allowable manufacturing range and test methods shall be according to ASTM C 260.

For admixtures according to Articles 1021.03, 1021.04, 1021.05, 1021.06, and 1021.07, the pH allowable manufacturing range shall be established by the manufacturer and the test method shall be according to ASTM E 70. For specific gravity and residue by oven drying, the allowable manufacturing range and test methods shall be according to ASTM C 494.

When test results are more than seven years old, the manufacturer shall re-submit the infrared spectrophotometer trace and the report prepared by an independent laboratory accredited by AASHTO.

All admixtures, except chloride-based accelerators, shall contain a maximum of 0.3 percent chloride by weight (mass).

Random field samples may be taken by the Department to verify an admixture meets specification. A split sample will be provided to the manufacturer if requested. Admixtures that do not meet specification requirements or an allowable manufacturing range established by the manufacturer shall be replaced with new material.

1021.02 Air-Entraining Admixtures. Air-entraining admixtures shall be according to AASHTO M 154.

1021.03 Retarding and Water-Reducing Admixtures. The admixture shall be according to the following.

- (a) The retarding admixture shall be according to AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).
- (b) The water-reducing admixture shall be according to AASHTO M 194, Type A.
- (c) The high range water-reducing admixture shall be according to AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).

1021.04 Accelerating Admixtures. The admixture shall be according to AASHTO M 194, Type C (accelerating) or Type E (water reducing and accelerating).

1021.05 Self-Consolidating Admixtures. The self-consolidating admixture system shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a concrete mixture that can flow around reinforcement and consolidate under its own weight without additional effort and without segregation.

The high range water-reducing admixture shall be according to AASHTO M 194, Type F.

The viscosity modifying admixture shall be according to ASTM C 494, Type S (specific performance).

1021.06 Rheology-Controlling Admixture. The rheology-controlling admixture shall be capable of producing a concrete mixture with a lower yield stress that will consolidate easier for slipform applications used by the Contractor. The rheology-controlling admixture shall be according to ASTM C 494, Type S (specific performance).

1021.07 Corrosion Inhibitor. The corrosion inhibitor shall be according to one of the following.

- (a) Calcium Nitrite. The corrosion inhibitor shall contain a minimum 30 percent calcium nitrite by weight (mass) of solution, and shall comply with the requirements of AASHTO M 194, Type C (accelerating).
- (b) Other Materials. The corrosion inhibitor shall be according to ASTM C 1582."

80094

CONSTRUCTION AIR QUALITY - DIESEL VEHICLE EMISSIONS CONTROL (BDE)

Effective: April 1, 2009

Revised: July 1, 2009

Diesel Vehicle Emissions Control. The reduction of construction air emissions shall be accomplished by using cleaner burning diesel fuel. The term "equipment" refers to any and all diesel fuel powered devices rated at 50 hp and above, to be used on the project site in excess of seven calendar days over the course of the construction period on the project site (including any "rental" equipment).

All equipment on the jobsite, with engine ratings of 50 hp and above, shall be required to: use Ultra Low Sulfur Diesel fuel (ULSD) exclusively (15 ppm sulfur content or less).

Diesel powered equipment in non-compliance will not be allowed to be used on the project site, and is also subject to a notice of non-compliance as outlined below.

The Contractor shall submit copies of monthly summary reports and include certified copies of the ULSD diesel fuel delivery slips for diesel fuel delivered to the jobsite for the reporting time period, noting the quantity of diesel fuel used.

If any diesel powered equipment is found to be in non-compliance with any portion of this specification, the Engineer will issue the Contractor a notice of non-compliance and identify an appropriate period of time, as outlined below under environmental deficiency deduction, in which to bring the equipment into compliance or remove it from the project site.

Any costs associated with bringing any diesel powered equipment into compliance with these diesel vehicle emissions controls shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall also not be grounds for a claim.

Environmental Deficiency Deduction. When the Engineer is notified, or determines that an environmental control deficiency exists, he/she will notify the Contractor in writing, and direct the Contractor to correct the deficiency within a specified time period. The specified time-period, which begins upon Contractor notification, will be from 1/2 hour to 24 hours long, based on the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge regarding the time period.

The deficiency will be based on lack of repair, maintenance and diesel vehicle emissions control.

If the Contractor fails to correct the deficiency within the specified time frame, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end

with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

If a Contractor or subcontractor accumulates three environmental deficiency deductions in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of contract time, waiver of penalties, or be grounds for any claim.

80237

CONSTRUCTION AIR QUALITY - IDLING RESTRICTIONS (BDE)

Effective: April 1, 2009

Idling Restrictions. The Contractor shall establish truck-staging areas for all diesel powered vehicles that are waiting to load or unload material at the jobsite. Staging areas shall be located where the diesel emissions from the equipment will have a minimum impact on adjacent sensitive receptors. The Department will review the selection of staging areas, whether within or outside the existing highway right-of-way, to avoid locations near sensitive areas or populations to the extent possible. Sensitive receptors include, but are not limited to, hospitals, schools, residences, motels, hotels, daycare facilities, elderly housing and convalescent facilities. Diesel powered engines shall also be located as far away as possible from fresh air intakes, air conditioners, and windows. The Engineer will approve staging areas before implementation.

Diesel powered vehicle operators may not cause or allow the motor vehicle, when it is not in motion, to idle for more than a total of 10 minutes within any 60 minute period, except under any of the following circumstances:

- 1) The motor vehicle has a gross vehicle weight rating of less than 8000 lb (3630 kg).
- 2) The motor vehicle idles while forced to remain motionless because of on-highway traffic, an official traffic control device or signal, or at the direction of a law enforcement official.
- 3) The motor vehicle idles when operating defrosters, heaters, air conditioners, or other equipment solely to prevent a safety or health emergency.
- 4) A police, fire, ambulance, public safety, other emergency or law enforcement motor vehicle, or any motor vehicle used in an emergency capacity, idles while in an emergency or training mode and not for the convenience of the vehicle operator.
- 5) The primary propulsion engine idles for maintenance, servicing, repairing, or diagnostic purposes if idling is necessary for such activity.
- 6) A motor vehicle idles as part of a government inspection to verify that all equipment is in good working order, provided idling is required as part of the inspection.
- 7) When idling of the motor vehicle is required to operate auxiliary equipment to accomplish the intended use of the vehicle (such as loading, unloading, mixing, or processing cargo; controlling cargo temperature; construction operations, lumbering operations; oil or gas well servicing; or farming operations), provided that this exemption does not apply when the vehicle is idling solely for cabin comfort or to operate non-essential equipment such as air conditioning, heating, microwave ovens, or televisions.
- 8) When the motor vehicle idles due to mechanical difficulties over which the operator has no control.
- 9) The outdoor temperature is less than 32 °F (0 °C) or greater than 80 °F (26 °C).

When the outdoor temperature is greater than or equal to 32 °F (0 °C) or less than or equal to 80 °F (26 °C), a person who operates a motor vehicle operating on diesel fuel shall not cause or allow the motor vehicle to idle for a period greater than 30 minutes in any 60 minute period while waiting to weigh, load, or unload cargo or freight, unless the vehicle is in a line of vehicles that regularly and periodically moves forward.

The above requirements do not prohibit the operation of an auxiliary power unit or generator set as an alternative to idling the main engine of a motor vehicle operating on diesel fuel.

Environmental Deficiency Deduction. When the Engineer is notified, or determines that an environmental control deficiency exists based on non-compliance with the idling restrictions, he/she will notify the Contractor, and direct the Contractor to correct the deficiency.

If the Contractor fails to correct the deficiency a monetary deduction will be imposed. The monetary deduction will be \$1,000.00 for each deficiency identified.

80239

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: November 1, 2008

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

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

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

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

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is

based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 11% 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 IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at www.dot.il.gov.

BIDDING PROCEDURES. Compliance with the bidding procedures of this Special Provision is required prior to the award of the contract and the failure of the as-read low bidder to comply will render the bid not responsive.

- (a) In order to assure the timely award of the contract, the as-read low bidder shall submit a Disadvantaged Business Utilization Plan on Department form SBE 2026 within seven working days after the date of letting. To meet the seven day requirement, the bidder may send the Plan by certified mail or delivery service within the seven working day period. If a question arises concerning the mailing date of a Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service. It is the responsibility of the bidder to ensure that the postmark or receipt date is affixed within the seven 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 day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the

penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.

- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. The signatures on these forms must be original signatures. All elements of information indicated on the said form shall be provided, including but not limited to the following:
 - (1) The name and address of each DBE to be used;
 - (2) A description, including pay item numbers, of the commercially useful work to be done by each DBE;
 - (3) The price to be paid to each DBE for the identified work specifically stating the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
 - (4) A commitment statement signed by the bidder and each DBE evidencing availability and intent to perform commercially useful work on the project; and
 - (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s).
- (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 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 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the 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 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
 - (2) 100 percent goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
 - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

GOOD FAITH EFFORT PROCEDURES. If the bidder cannot obtain sufficient DBE commitments to meet the contract goal, the bidder must document in the Utilization Plan the good faith efforts made in the attempt to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which could reasonably be expected to obtain sufficient DBE participation. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts are not good faith efforts; rather, the bidder is expected to have taken those efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.
- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
 - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
 - (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
 - (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and

using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable.

- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
 - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
 - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that a good faith effort has not been made, the Department will notify the bidder of that preliminary determination by contacting the responsible company official designated in the Utilization Plan. The preliminary determination shall include a statement of reasons why good faith efforts have not been found, and may include additional good faith efforts that the bidder could take. The notification will designate a five 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 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 working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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

- (a) No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. If a DBE listed in the Utilization Plan is terminated for reasons other than convenience, or fails to complete its work on the contract for any reason, the Contractor shall make good faith efforts to

find another DBE to substitute for the terminated DBE. The good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, but only to the extent needed to meet the contract goal or the amended contract goal. The Contractor shall notify the Bureau of Small Business Enterprises of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Bureau of Small Business Enterprises and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau of Small Business Enterprises will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.

- (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 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Regional Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Plan, the Department will deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages.
- (d) The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (e) Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department.

80029

DOWEL BARS (BDE)

Effective: April 1, 2007

| Revised: January 1, 2008

| Revise the fifth and sixth sentences of Article 1006.11(b) of the Standard Specifications to read:

| "The bars shall be epoxy coated according to AASHTO M 284, except the thickness of the epoxy shall be 7 to 12 mils (0.18 to 0.30 mm) and patching of the ends will not be required. The epoxy coating applicator shall be certified according to the current Bureau of Materials and Physical Research Policy Memorandum, "Epoxy Coating Plant Certification Procedure". The Department will maintain an approved list."

80178

EQUIPMENT RENTAL RATES (BDE)

Effective: August 2, 2007

Revised: January 2, 2008

Replace the second and third paragraphs of Article 105.07(b)(4)a. of the Standard Specifications with the following:

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

Replace Article 109.04(b)(4) of the Standard Specifications with the following:

"(4) Equipment. Equipment used for extra work shall be authorized by the Engineer. The equipment shall be specifically described, be of suitable size and capacity for the work to be performed, and be in good operating condition. For such equipment, the Contractor will be paid as follows.

- a. Contractor Owned Equipment. Contractor owned equipment will be paid for by the hour using the applicable FHWA hourly rate from the "Equipment Watch Rental Rate Blue Book" (Blue Book) in effect when the force account work begins. The FHWA hourly rate is calculated as follows.

$$\text{FHWA hourly rate} = (\text{monthly rate}/176) \times (\text{model year adj.}) \times (\text{Illinois adj.}) + \text{EOC}$$

Where: EOC = Estimated Operating Costs per hour (from the Blue Book)

The time allowed will be the actual time the equipment is operating on the extra work. For the time required to move the equipment to and from the site of the extra work and any authorized idle (standby) time, payment will be made at the following hourly rate: $0.5 \times (\text{FHWA hourly rate} - \text{EOC})$.

All time allowed shall fall within the working hours authorized for the extra work.

The rates above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhaul and maintenance of any kind, depreciation, storage, overhead, profits, insurance, and all incidentals. The rates do not include labor.

The Contractor shall submit to the Engineer sufficient information for each piece of equipment and its attachments to enable the Engineer to determine the proper equipment category. If a rate is not established in the Blue Book for a particular piece of equipment, the Engineer will establish a rate for that piece of equipment that is consistent with its cost and use in the industry.

- b. Rented Equipment. Whenever it is necessary for the Contractor to rent equipment to perform extra work, the rental and transportation costs of the equipment plus five percent for overhead will be paid. In no case shall the rental rates exceed those of established distributors or equipment rental agencies.

All prices shall be agreed to in writing before the equipment is used."

80189

FLAGGER AT SIDE ROADS AND ENTRANCES (BDE)

Effective: April 1, 2009

Revise the second paragraph of Article 701.13(a) of the Standard Specifications to read:

“The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.”

Revise the first and second paragraph of Article 701.20(i) of the Standard Specifications to read:

“Signs, barricades, or other traffic control devices required by the Engineer over and above those specified will be paid for according to Article 109.04. All flaggers required at side roads and entrances remaining open to traffic including those that are shown on the Highway Standards and/or additional barricades required by the Engineer to close side roads and entrances will be paid for according to Article 109.04.”

80228

HMA - HAULING ON PARTIALLY COMPLETED FULL-DEPTH PAVEMENT (BDE)

Effective: January 1, 2008

Revise Article 407.08 of the Standard Specifications to read:

“407.08 Hauling on the Partially Completed Full-Depth Pavement. Legally loaded trucks will be permitted on the partially completed full-depth HMA pavement only to deliver HMA mixture to the paver, provided the last lift has cooled a minimum of 12 hours. Hauling shall be limited to the distances shown in the following tables. The pavement surface temperature shall be measured using an infrared gun. The use of water to cool the pavement to permit hauling will not be allowed. The Contractor’s traffic pattern shall minimize hauling on the partially completed pavement and shall vary across the width of the pavement such that “tracking” of vehicles, one directly behind the other, does not occur.

MAXIMUM HAULING DISTANCE FOR PAVEMENT SURFACE TEMPERATURE BELOW 105 °F (40 °C)				
Total In-Place Thickness Being Hauled On, in. (mm)	Thickness of Lift Being Placed			
	3 in. (75 mm) or less		More than 3 in. (75 mm)	
	Modified Soil Subgrade	Granular Subbase	Modified Soil Subgrade	Granular Subbase
3.0 to 4.0 (75 to 100)	0.75 miles (1200 m)	1.0 mile (1600 m)	0.50 miles (800 m)	0.75 miles (1200 m)
4.1 to 5.0 (101 to 125)	1.0 mile (1600 m)	1.5 miles (2400 m)	0.75 miles (1200 m)	1.0 mile (1600 m)
5.1 to 6.0 (126 to 150)	2.0 miles (3200 m)	2.5 miles (4000 m)	1.5 miles (2400 m)	2.0 miles (3200 m)
6.1 to 8.0 (151 to 200)	2.5 miles (4000 m)	3.0 miles (4800 m)	2.0 miles (3200 m)	2.5 miles (4000 m)
Over 8.0 (200)	No Restrictions			

MAXIMUM HAULING DISTANCE FOR PAVEMENT SURFACE TEMPERATURE OF 105 °F (40 °C) AND ABOVE				
Total In-Place Thickness Being Hauled On, in. (mm)	Thickness of Lift Being Placed			
	3 in. (75 mm) or less		More than 3 in. (75 mm)	
	Modified Soil Subgrade	Granular Subbase	Modified Soil Subgrade	Granular Subbase
3.0 to 4.0 (75 to 100)	0.50 miles (800 m)	0.75 miles (1200 m)	0.25 miles (400 m)	0.50 miles (800 m)
4.1 to 5.0 (101 to 125)	0.75 miles (1200 m)	1.0 mile (1600 m)	0.50 miles (800 m)	0.75 miles (1200 m)
5.1 to 6.0 (126 to 150)	1.0 mile (1600 m)	1.5 miles (2400 m)	0.75 miles (1200 m)	1.0 mile (1600 m)
6.1 to 8.0 (151 to 200)	2.0 miles (3200 m)	2.5 miles (4000 m)	1.5 miles (2400 m)	2.0 miles (3200 m)
Over 8.0 (200)	No Restrictions			

Permissive hauling on the partially completed pavement shall not relieve the Contractor of his/her responsibility for damage to the pavement. Any portion of the full-depth HMA pavement that is damaged by hauling shall be removed and replaced, or otherwise repaired to the satisfaction of the Engineer.

Crossovers used to transfer haul trucks from one roadway to the other shall be at least 1000 ft (300 m) apart and shall be constructed of material that will prevent tracking of dust or mud on the completed HMA lifts. The Contractor shall construct, maintain, and remove all crossovers."

80194

HOT-MIX ASPHALT - FIELD VOIDS IN THE MINERAL AGGREGATE (BDE)

Effective: April 1, 2007

Revised: April 1, 2008

Add the following to the table in Article 1030.05(d)(2)a. of the Standard Specifications:

"Parameter	Frequency of Tests	Frequency of Tests	Test Method See Manual of Test Procedures for Materials
	High ESAL Mixture Low ESAL Mixture	All Other Mixtures	
VMA	Day's production ≥ 1200 tons:	N/A	Illinois-Modified AASHTO R 35
Note 5.	1 per half day of production		
	Day's production < 1200 tons:		
	1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)		

Note 5. The G_{sb} used in the voids in the mineral aggregate (VMA) calculation shall be the same average G_{sb} value listed in the mix design."

Add the following to the Control Limits table in Article 1030.05(d)(4) of the Standard Specifications:

"CONTROL LIMITS			
Parameter	High ESAL Low ESAL	High ESAL Low ESAL	All Other
	Individual Test	Moving Avg. of 4	Individual Test
VMA	-0.7 % ^{2/}	-0.5 % ^{2/}	N/A

2/ Allowable limit below minimum design VMA requirement"

Add the following to the table in Article 1030.05(d)(5) of the Standard Specifications:

"CONTROL CHART REQUIREMENTS	High ESAL Low ESAL VMA"	All Other
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Revise the heading of Article 1030.05(d)(6)a.1. of the Standard Specifications to read:

"1. Voids, VMA, and Asphalt Binder Content."

Revise the first sentence of the first paragraph of Article 1030.05(d)(6)a.1.(a.) of the Standard Specifications to read:

"If the retest for voids, VMA, or asphalt binder content exceeds control limits, HMA production shall cease and immediate corrective action shall be instituted by the Contractor."

Revise the table in Article 1030.05(e) of the Standard Specifications to read:

"Test Parameter	Acceptable Limits of Precision
% Passing: ^{1/}	
1/2 in. (12.5 mm)	5.0 %
No. 4 (4.75 mm)	5.0 %
No. 8 (2.36 mm)	3.0 %
No. 30 (600 μm)	2.0 %
Total Dust Content No. 200 (75 μm) ^{1/}	2.2 %
Asphalt Binder Content	0.3 %
Maximum Specific Gravity of Mixture	0.026
Bulk Specific Gravity	0.030
VMA	1.4 %
Density (% Compaction)	1.0 % (Correlated)

^{1/} Based on washed ignition."

80181

HOT-MIX ASPHALT – PLANT TEST FREQUENCY (BDE)

Effective: April 1, 2008

Revise the table in Article 1030.05(d)(2)a. of the Standard Specifications to read:

"Parameter	Frequency of Tests	Frequency of Tests	Test Method See Manual of Test Procedures for Materials
	High ESAL Mixture Low ESAL Mixture	All Other Mixtures	
<p>Aggregate Gradation</p> <p>Hot bins for batch and continuous plants.</p> <p>Individual cold-feed or combined belt-feed for drier drum plants.</p> <p>% passing sieves: 1/2 in. (12.5 mm), No. 4 (4.75 mm), No. 8 (2.36 mm), No. 30 (600 μm) No. 200 (75 μm)</p> <p>Note 1.</p>	<p>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 the afternoon if dry gradation is conducted in the morning or vice versa).</p> <p>Note 3. Note 4.</p>	<p>1 gradation per day of production.</p> <p>The first day of production shall be a washed ignition oven test on the mix. Thereafter, the testing shall alternate between dry gradation and washed ignition oven test on the mix.</p> <p>Note 4.</p>	<p>Illinois Procedure</p>
<p>Asphalt Binder Content by Ignition Oven</p> <p>Note 2.</p>	<p>1 per half day of production</p>	<p>1 per day</p>	<p>Illinois-Modified AASHTO T 308</p>
<p>Air Voids</p> <p>Bulk Specific Gravity of Gyratory Sample</p>	<p>Day's production ≥ 1200 tons: 1 per half day of production</p> <p>Day's production < 1200 tons: 1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)</p>	<p>1 per day</p>	<p>Illinois-Modified AASHTO T 312</p>

"Parameter	Frequency of Tests High ESAL Mixture Low ESAL Mixture	Frequency of Tests All Other Mixtures	Test Method See Manual of Test Procedures for Materials
Maximum Specific Gravity of Mixture	Day's production \geq 1200 tons: 1 per half day of production	1 per day	Illinois-Modified AASHTO T 209"
	Day's production < 1200 tons: 1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)		

80201

HOT-MIX ASPHALT – TRANSPORTATION (BDE)

Effective: April 1, 2008

Revise Article 1030.08 of the Standard Specifications to read:

"1030.08 Transportation. Vehicles used in transporting HMA shall have clean and tight beds. The beds shall be sprayed with asphalt release agents from the Department's approved list. In lieu of a release agent, the Contractor may use a light spray of water with a light scatter of manufactured sand (FA 20 or FA 21) evenly distributed over the bed of the vehicle. After spraying, the bed of the vehicle shall be in a completely raised position and it shall remain in this position until all excess asphalt release agent or water has been drained.

When the air temperature is below 60 °F (15 °C), the bed, including the end, endgate, sides and bottom shall be insulated with fiberboard, plywood or other approved insulating material and shall have a thickness of not less than 3/4 in (20 mm). When the insulation is placed inside the bed, the insulation shall be covered with sheet steel approved by the Engineer. Each vehicle shall be equipped with a cover of canvas or other suitable material meeting the approval of the Engineer which shall be used if any one of the following conditions is present.

- (a) Ambient air temperature is below 60 °F (15 °C).
- (b) The weather is inclement.
- (c) The temperature of the HMA immediately behind the paver screed is below 250 °F (120 °C).

The cover shall extend down over the sides and ends of the bed for a distance of approximately 12 in. (300 mm) and shall be fastened securely. The covering shall be rolled back before the load is dumped into the finishing machine."

80202

IMPACT ATTENUATORS (BDE)

Effective: November 1, 2003

Revised: November 1, 2008

Description. This work shall consist of furnishing and installing impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1).....	1003.01
(b) Steel Posts, Structural Shapes, and Plates	1006.04
(c) Rail Elements, End Section Plates, and Splice Plates	1006.25
(d) Bolts, Nuts, Washers and Hardware	1006.25
(e) Hollow Structural Tubing	1006.27(b)
(f) Wood Posts and Wood Blockouts.....	1007.01, 1007.02, 1007.06
(g) Preservative Treatment.....	1007.12

Note 1. Fine aggregate shall be FA 1 or FA 2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

CONSTRUCTION REQUIREMENTS

General. Impact attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list. Fully redirective and partially redirective attenuators shall also be designed for bi-directional impacts.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Bases for impact attenuators, other than sand modules, shall be installed when required by the manufacturer. The bases 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.

Bases for sand module impact attenuators will be required. The bases shall be constructed of either portland cement concrete or hot-mix asphalt (HMA). Portland cement concrete bases shall be 6 in. (150 mm) thick and be according to the applicable requirements of Section 424 of the Standard Specifications. HMA bases shall be 8 in. (200 mm) thick and be according to the applicable requirements of Section 408 of the Standard Specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage. The perimeter of each module and the specified weight (mass) of sand in each module shall be painted on the surface of the base.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Contract quantities for sand module attenuator bases may be accepted according to Article 202.07(a) of the Standard Specifications. When measured, sand module attenuator bases will be measured in place and the dimensions used to calculate square yards (square meters) will not exceed those as shown on the plans.

Basis of Payment. This work, will be paid for at the contract unit price per each for IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS (FULLY REDIRECTIVE, RESETTABLE); IMPACT ATTENUATORS (SEVERE USE, NARROW); IMPACT ATTENUATORS (SEVERE USE, WIDE); IMPACT ATTENUATORS (PARTIALLY REDIRECTIVE); or IMPACT ATTENUATORS (NON-REDIRECTIVE), of the test level specified.

Sand module attenuator bases will be paid for at the contract unit price per square yard (square meter) for ATTENUATOR BASE.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

80109

IMPACT ATTENUATORS, TEMPORARY (BDE)

Effective: November 1, 2003

Revised: January 1, 2007

Description. This work shall consist of furnishing, installing, maintaining, and removing temporary impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1).....	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) Packaged Rapid Hardening Mortar	1018.01

Note 1. Fine aggregate shall be FA 1 or FA 2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

CONSTRUCTION REQUIREMENTS

General. Impact Attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer's specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

When water filled attenuators are used between November 1 and April 15, they shall contain anti-freeze according to the manufacturer's recommendations.

Markings. Sand module impact attenuators shall be striped with alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes. There shall be at least two of each stripe on each module.

Other types of impact attenuators shall have a terminal marker applied to their nose and reflectors along their sides.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When relocation of temporary impact attenuators is specified, they shall be removed, relocated and reinstalled at the new location. The reinstallation requirements shall be the same as those for a new installation.

Removal. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

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

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Basis of Payment. This work will be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE); or IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

Relocation of the devices will be paid for at the contract unit price per each for IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE); IMPACT ATTENUATORS, RELOCATE (SEVERE USE); or IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE); of the test level specified.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

80110

LIQUIDATED DAMAGES (BDE)

Effective: April 1, 2009

Revise the table in Article 108.09 of the Standard Specifications to read:

"Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Work Day
\$ 0	\$ 100,000	\$ 375	\$ 500
100,000	500,000	625	875
500,000	1,000,000	1,025	1,425
1,000,000	3,000,000	1,125	1,550
3,000,000	5,000,000	1,425	1,950
5,000,000	10,000,000	1,700	2,350
10,000,000	And over	3,325	4,650"

80230

MAST ARM ASSEMBLY AND POLE (BDE)

Effective: January 1, 2008

Revised: January 1, 2009

Revise Article 1077.03 of the Standard Specifications to read:

"1077.03 Mast Arm Assembly and Pole. Mast arm assembly and pole shall be as follows.

- (a) Steel Mast Arm Assembly and Pole and Steel Combination Mast Arm Assembly and Pole. The steel mast arm assembly and pole and steel combination mast arm assembly and pole shall consist of a traffic signal mast arm, a luminaire mast arm or davit (for combination pole only), a pole, and a base, together with anchor rods and other appurtenances. The configuration of the mast arm assembly, pole, and base shall be according to the details shown on the plans.
- (1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans, whichever is greater. The design shall be according to AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 1994 Edition for 80 mph (130 km/hr) wind velocity. However, the arm-to-pole connection for tapered signal and luminaire arms shall be according to the "ring plate" detail as shown in Figure 11-1(f) of the 2002 Interim, to the AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 2001 4th Edition.
- (2) Structural Steel Grade. The mast arm and pole shall be fabricated according to ASTM A 595, Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2. The base and flange plates shall be of structural steel according to AASHTO M 270 Grade 50 (M 270M Grade 345). Luminaire arms and trussed arms 15 ft (4.5 m) or less shall be fabricated from one steel pipe or tube size according to ASTM A 53 Grade B or ASTM A 500 Grade B or C. All mast arm assemblies, poles, and bases shall be galvanized according to AASHTO M 111.
- (3) Fabrication. The design and fabrication of the mast arm assembly, pole, and base shall be according to the requirements of the Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals published by AASHTO. The mast arm and pole may be of single length or sectional design. If section design is used, the overlap shall be at least 150 percent of the maximum diameter of the overlapping section and shall be assembled in the factory.

The manufacturer will be allowed to slot the base plate in which other bolt circles may fit, providing that these slots do not offset the integrity of the pole. Circumferential welds of tapered arms and poles to base plates shall be full penetration welds.

(4) Shop Drawing Approval. The Contractor shall submit detailed drawings showing design materials, thickness of sections, weld sizes, and anchor rods to the Engineer for approval prior to fabrication. These drawings shall be at least 11 x 17 in. (275 x 425 mm) in size and of adequate quality for microfilming.

(b) Anchor Rods. The anchor rods shall be ASTM F 1554 Grade 105, coated by the hot-dip galvanizing process according to AASHTO M 232, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and have a bend at the other end. The first 10 in. (250 mm) at the threaded end shall be galvanized. Two nuts, one lock washer, and one flat washer shall be furnished with each anchor rod. All nuts and washers shall be galvanized."

80196

METAL HARDWARE CAST INTO CONCRETE (BDE)

Effective: April 1, 2008

Revised: April 1, 2009

Add the following to Article 503.02 of the Standard Specifications:

“(g) Metal Hardware Cast into Concrete.....1006.13”

Add the following to Article 504.02 of the Standard Specifications:

“(j) Metal Hardware Cast into Concrete.....1006.13”

Revise Article 1006.13 of the Standard Specifications to read:

“**1006.13 Metal Hardware Cast into Concrete.** Unless otherwise noted, all steel hardware cast into concrete, such as inserts, brackets, cable clamps, metal casings for formed holes, and other miscellaneous items, shall be galvanized according to AASHTO M 232 or AASHTO M 111. Aluminum inserts will not be allowed. Zinc alloy inserts shall be according to ASTM B 86, Alloys 3, 5, or 7.

The inserts shall be UNC threaded type anchorages having the following minimum certified proof load.

Insert Diameter	Proof Load
5/8 in. (16 mm)	6600 lb (29.4 kN)
3/4 in. (19 mm)	6600 lb (29.4 kN)
1 in. (25 mm)	9240 lb (41.1 kN)”

80203

MULTILANE PAVEMENT PATCHING (BDE)

Effective: November 1, 2002

Pavement broken and holes opened for patching shall be completed prior to weekend or holiday periods. Should delays of any type or for any reason prevent the completion of the work, temporary patches shall be constructed. Material able to support the average daily traffic and meeting the approval of the Engineer shall be used for the temporary patches. The cost of furnishing, placing, maintaining, removing and disposing of the temporary work, including traffic control, shall be the responsibility of the Contractor.

80082

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM / EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: April 1, 2007

Revised: November 1, 2008

Revise Article 105.03(a) of the Standard Specifications to read:

“(a) National Pollutant Discharge Elimination System (NPDES) / Erosion and Sediment Control Deficiency Deduction. When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, or the Contractor’s activities represents a violation of the Department’s NPDES permits, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 1 week based on the urgency of the situation and the nature of the work effort required. The Engineer will be the sole judge.

A deficiency may be any lack of repair, maintenance, or implementation of erosion and/or sediment control devices included in the contract, or any failure to comply with the conditions of the Department’s NPDES permits. A deficiency may also be applied to situations where corrective action is not an option such as the failure to participate in a jobsite inspection of the project, failure to install required measures prior to initiating earth moving operations, disregard of concrete washout requirements, or other disregard of the NPDES permit.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or 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 \$1000.00 or 0.05 percent of the awarded contract value, whichever is greater. For those deficiencies where corrective action was not an option, the monetary deduction will be immediate and will be valued at one calendar day.”

80180

PAVEMENT MARKING REMOVAL (BDE)

Effective: April 1, 2009

Add the following to the end of the first paragraph of Article 783.03(a) of the Standard Specifications:

“The use of grinders will not be allowed on new surface courses.”

80231

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: June 1, 2000

Revised: January 1, 2006

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the State Prompt Payment Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

When progress payments are made to the Contractor according to Article 109.07 of the Standard Specifications, the Contractor shall make a corresponding payment to each subcontractor and material supplier in proportion to the work satisfactorily completed by each subcontractor and for the material supplied to perform any work of the contract. The proportionate amount of partial payment due to each subcontractor and material supplier throughout the contracting chain shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors and material suppliers shall be paid by the Contractor within 15 calendar days after the receipt of payment from the Department. The Contractor shall not hold retainage from the subcontractors. These obligations shall also apply to any payments made by subcontractors and material suppliers to their subcontractors and material suppliers; and to all payments made to lower tier subcontractors and material suppliers throughout the contracting chain. Any payment or portion of a payment subject to this provision may only be withheld from the subcontractor or material supplier to whom it is due for reasonable cause.

This Special Provision does not create any rights in favor of any subcontractor or material supplier against the State or authorize any cause of action against the State on account of any payment, nonpayment, delayed payment, or interest claimed by application of the State Prompt Payment Act. The Department will not approve any delay or postponement of the 15 day requirement except for reasonable cause shown after notice and hearing pursuant to Section

| 7(b) of the State Prompt Payment Act. State law creates other and additional remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond according to the Public Construction Bond Act, 30 ILCS 550.

80022

PAYROLLS AND PAYROLL RECORDS (BDE)

Effective: March 1, 2009

Revised: July 1, 2009

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

"STATEMENTS AND PAYROLLS

The payroll records shall include each worker's name, address, telephone number, social security number, classification, rate of pay, number of hours worked each day, starting and ending times of work each day, total hours worked each week, itemized deductions made, and actual wages paid.

The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work, except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number.). In addition, starting and ending times of work each day may be omitted from the payroll records submitted to the Engineer. The submittals shall be on the Department's form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box ("No Work", "Suspended", or "Complete") checked on the form."

STATE CONTRACTS. Revise Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

"IV. COMPLIANCE WITH THE PREVAILING WAGE ACT

1. **Prevailing Wages.** All wages paid by the Contractor and each subcontractor shall be in compliance with The Prevailing Wage Act (820 ILCS 130), as amended, except where a prevailing wage violates a federal law, order, or ruling, the rate conforming to the federal law, order, or ruling shall govern. The Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto. If the Department of Labor revises the wage rates, the Contractor will not be allowed additional compensation on account of said revisions.
2. **Payroll Records.** The Contractor and each subcontractor shall make and keep, for a period of three years from the date of completion of this contract, records of the wages paid to his/her workers. The payroll records shall include each worker's name, address, telephone number, social security number, classification, rate of pay, number of hours worked each day, starting and ending times of work each day, total hours worked each week, itemized deductions made, and actual wages paid. Upon two business days' notice, these records shall be available, at all reasonable hours at a location within the State, for inspection by the Department or the Department of Labor.

3. Submission of Payroll Records. The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work, except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted to the Engineer. The submittals shall be on the Department's form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box ("No Work", "Suspended", or "Complete") checked on the form.

Each submittal shall be accompanied by a statement signed by the Contractor or subcontractor which avers that: (i) such records are true and accurate; (ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required by the Act; and (iii) the Contractor or subcontractor is aware that filing a payroll record that he/she knows to be false is a Class B misdemeanor.

4. Employee Interviews. The Contractor and each subcontractor shall permit his/her employees to be interviewed on the job, during working hours, by compliance investigators of the Department or the Department of Labor."

80235

PERSONAL PROTECTIVE EQUIPMENT (BDE)

Effective: November 1, 2008

Revise the first sentence of Article 701.12 of the Standard Specifications to read:

“All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 for Conspicuity Class 2 garments.”

80209

PLASTIC BLOCKOUTS FOR GUARDRAIL (BDE)

Effective: November 1, 2004

Revised: January 1, 2007

Add the following to Article 630.02 of the Standard Specifications:

“(g) Plastic Blockouts (Note 1.)

Note 1. Plastic blockouts may be used in lieu of wood blockouts for steel plate beam guardrail. The plastic blockouts shall be the minimum dimensions shown on the plans and shall be on the Department’s approved list.”

80134

POLYUREA PAVEMENT MARKING (BDE)

Effective: April 1, 2004

Revised: January 1, 2009

Description. This work shall consist of furnishing and applying pavement marking lines.

The type of polyurea pavement marking applied will be determined by the type of reflective media used. Polyurea Pavement Marking Type I shall use glass beads as a reflective media. Polyurea Pavement Marking Type II shall use a combination of composite reflective elements and glass beads as a reflective media.

Polyurea-based liquid pavement markings shall only be applied by Contractors on the list of Approved Polyurea Contractors maintained by the Engineer of Operations and in effect on the date of advertisement for bids.

Materials. Materials shall meet the following requirements:

(a) Polyurea Pavement Marking. The polyurea pavement marking material shall consist of 100 percent solid two part system formulated and designed to provide a simple volumetric mixing ratio of two components (must be two or three volumes of Part A to one volume of Part B). No volatile or polluting solvents or fillers will be allowed.

(b) Pigmentation. The pigment content by weight (mass) of component A shall be determined by low temperature ashing according to ASTM D 3723. The pigment content shall not vary more than \pm two percent from the pigment content of the original qualified paint.

White Pigment shall be Titanium Dioxide meeting ASTM D 476 Type II, Rutile.

Yellow Pigment shall be an Organic Yellow and contain no heavy metals.

(c) Environmental. Upon heating to application temperature, the material shall not exude fumes which are toxic or injurious to persons or property.

(d) Daylight Reflectance. The daylight directional reflectance of the cured polyurea material (without reflective media) shall be a minimum of 80 percent (white) and 50 percent (yellow) relative to magnesium oxide when tested using a color spectrophotometer with a 45 degrees circumferential /zero degrees geometry, illuminant C, and two degrees observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm. In addition, the color of the yellow polyurea shall visually match Color Number 33538 of Federal Standard 595a with chromaticity limits as follows:

X	0.490	0.475	0.485	0.539
Y	0.470	0.438	0.425	0.456

(e) Weathering Resistance. The polyurea marking material, when mixed in the proper ratio and applied at 14 to 16 mils (0.35 to 0.41 mm) wet film thickness to an aluminum alloy

panel (Federal Test Std. No. 141, Method 2013) and allowed to cure for 72 hours at room temperature, shall be subjected to accelerated weathering for 75 hours. The accelerated weathering shall be completed by using the light and water exposure apparatus (fluorescent UV - condensation type) and tested according to ASTM G 53.

The cycle shall consist of four hours UV exposure at 122 °F (50 °C) and four hours of condensation at 104 °F (40 °C). UVB 313 bulbs shall be used. At the end of the exposure period, the material shall show no substantial change in color or gloss.

(f) Dry Time. The polyurea pavement marking material, when mixed in the proper ratio and applied at 14 to 16 mils (0.35 to 0.41 mm) wet film thickness and with the proper saturation of reflective media, shall exhibit a no-tracking time of ten minutes or less when tested according to ASTM D 711.

(g) Adhesion. The catalyzed polyurea pavement marking materials when applied to a 4 x 4 x 2 in. (100 x 100 x 50 mm) concrete block, shall have a degree of adhesion which results in a 100 percent concrete failure in the performance of this test.

The concrete block shall be brushed on one side and have a minimum strength of 3500 psi (24,100 kPa). A 2 in. (50 mm) square film of the mixed polyurea shall be applied to the brushed surface and allowed to cure for 72 hours at room temperature. A 2 in. (50 mm) square cube shall be affixed to the surface of the polyurea by means of an epoxy glue. After the glue has cured for 24 hours, the polyurea specimen shall be placed on a dynamic testing machine in such a fashion so that the specimen block is in a fixed position and the 2 in. (50 mm) cube (glued to the polyurea surface) is attached to the dynamometer head. Direct upward pressure shall be slowly applied until the polyurea system fails. The location of the break and the amount of concrete failure shall be recorded.

(h) Hardness. The polyurea pavement marking materials when tested according to ASTM D 2240, shall have a shore D hardness of between 70 and 100. Films shall be cast on a rigid substrate at 14 to 16 mils (0.35 to 0.41 mm) in thickness and allowed to cure at room temperature for 72 hours before testing.

(i) Abrasion. The abrasion resistance shall be evaluated according to ASTM D 4060 using a Taber Abrader with a 1,000 gram load and CS 17 wheels. The duration of the test shall be 1,000 cycles. The loss shall be calculated by difference and be less than 120 mgs. The tests shall be run on cured samples of polyurea material which have been applied at a film thickness of 14 to 16 mils (0.35 to 0.41 mm) to code S-16 stainless steel plates. The films shall be allowed to cure at room temperature for at least 72 hours and not more than 96 hours before testing.

(j) Reflective Media. The reflective media shall meet the following requirements:

(1) Type I - The glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications and the following requirements:

- a. First Drop Glass Beads. 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:

U.S. Standard Sieve Number	Sieve Size	% Passing By Weight (mass)
12	1.70 mm	95-100
14	1.40 mm	75-95
16	1.18 mm	10-47
18	1.00 mm	0-7
20	850 μ m	0-5

- b. Second Drop Glass Beads. The second drop glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications for Type B.
- (2) Type II - The combination of microcrystalline ceramic elements and glass beads shall meet the following requirements:

- a. First Drop Glass Beads. The first drop glass beads shall meet the following requirements:

1. Composition. The elements shall be composed of a titania opacified ceramic core having clear and or yellow tinted microcrystalline ceramic beads embedded to the outer surface.
2. Index of Refraction. All microcrystalline reflective elements embedded to the outer surface shall have an index of refraction of 1.8 when tested by the immersion method.
3. Acid Resistance. A sample of microcrystalline ceramic beads supplied by the manufacturer, shall show resistance to corrosion of their surface after exposure to a one percent solution (by weight (mass)) of sulfuric acid. Adding 0.2 oz (5.7 ml) of concentrated acid into the water shall make the one percent acid solution. This test shall be performed by taking a 1 x 2 in. (25 x 50 mm) sample and adhering it to the bottom of a glass tray and placing just enough acid solution to completely immerse the sample. The tray shall be covered with a piece of glass to prevent evaporation and allow the sample to be exposed for 24 hours under these conditions. The acid solution shall be decanted (do not rinse, touch, or otherwise disturb the bead surfaces) and the sample dried while adhered to the glass tray in a 150 °F (66 °C) oven for approximately 15 minutes. Microscope examination (20X) shall show no white (corroded) layer on the entire surface.

- b. Second Drop Glass Beads. The second drop glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications for Type B or the following manufacturer's specification:

1. Sieve Analysis. The glass beads shall meet the following sieve requirements:

U.S. Standard Sieve Number	Sieve Size	% Passing By Weight (mass)
20	850 μm	100
30	600 μm	75-95
50	300 μm	15-35
100	150 μm	0-5

The manufacturer of the glass beads shall certify that the treatment of the glass beads meets the requirements of the polyurea manufacturer.

2. Imperfections. The surface of the glass beads shall be free of pits and scratches. The glass beads shall be spherical in shape and shall contain a maximum of 20 percent by weight (mass) of irregular shapes when tested by the standard method using a vibratile inclined glass plate as adopted by the Department.
 3. Index of Refraction. The index of refraction of the glass beads shall be a minimum of 1.50 when tested by the immersion method at 77 °F (25 °C).
- (k) Packaging. Microcrystalline ceramic reflective elements and glass beads shall be delivered in approved moisture proof bags or weather resistant bulk boxes. Each carton shall be legibly marked with the manufacturer, specifications and type, lot number, and the month and year the microcrystalline ceramic reflective elements and/or glass beads were packaged. The letters and numbers used in the stencils shall be a minimum of 1/2 in. (12.7 mm) in height.
- (1) Moisture Proof Bags. Moisture proof bags shall consist of at least five ply paper construction unless otherwise specified. Each bag shall contain 50 lb (22.7 kg) net.
 - (2) Bulk Weather Resistance Boxes. Bulk weather resistance boxes shall conform to Federal Specification PPP-8-640D Class II or latest revision. Boxes are to be weather resistant, triple wall, fluted, corrugated-fiber board. Cartons shall be strapped with two metal straps. Straps shall surround the outside perimeter of the carton. The first strap shall be located approximately 2 in. (50 mm) from the bottom of the carton and the second strap shall be placed approximately in the middle of the carton. All cartons shall be shrink wrapped for protection from moisture. Cartons shall be lined with a minimum 4 mil polyester bag and meet Interstate Commerce Commission requirements. Cartons shall be approximately 38 x 38 in. (1 x 1 m), contain 2000 lb (910 kg) of microcrystalline ceramic reflective elements and/or glass beads and be supported on a wooden pallet with fiber straps.
- (l) Packaging. The material shall be shipped to the job site in substantial containers and shall be plainly marked with the manufacturer's name and address, the name and color of the material, date of manufacture, and batch number.
- (m) Verification. Prior to approval and use of the polyurea pavement marking materials, the manufacturer shall submit a notarized certification of an independent laboratory, together with the results of all tests, stating these materials meet the requirements as set forth

herein. The certification test report shall state the lot tested, manufacturer's name, brand name of polyurea and date of manufacture. The certification shall be accompanied by one 1 pt (1/2 L) samples each of Part A and Part B. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B.

After approval by the Department, certification by the polyurea manufacturer shall be submitted for each batch used. New independent laboratory certified test results and samples for testing by the Department shall be submitted any time the manufacturing process or paint formulation is changed. All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer.

- (n) Acceptance samples. Acceptance samples shall consist of one 1 pt (1/2 L) samples of Part A and Part B, of each lot of paint. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B. The samples shall be submitted to the Department for testing, together with a manufacturer's certification. The certification shall state the formulation for the lot represented is essentially identical to that used for qualification testing. All, acceptance samples will be taken by a representative of the Department. The polyurea pavement marking materials shall not be used until tests are completed and they have met the requirements as set forth herein.
- (o) Material Retainage. The manufacturer shall retain the test sample for a minimum of 18 months.

Equipment. The polyurea pavement marking compounds shall be applied through equipment specifically designed to apply two component liquid materials, glass beads and/or reflective elements in a continuous and skip-line pattern. The two-component liquid materials shall be applied after being accurately metered and then mixed with a static mix tube or airless impingement mixing guns. The static mixing tube or impingement mixing guns shall accommodate plural component material systems that have a volumetric ratio of 2 to 1 or 3 to 1. This equipment shall produce the required amount of heat at the mixing head and gun tip and maintain those temperatures within the tolerances specified. The guns shall have the capacity to deliver materials from approximately 1.5 to 3 gal/min (5.7 to 11.4 L/min) to compensate for a typical range of application speeds of 6 to 8 mph (10 to 13 km/h). The accessories such as spray tip, mix chamber, and rod diameter shall be selected according to the manufacturer's specifications to achieve proper mixing and an acceptable spray pattern. The application equipment shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in a true arc. This equipment shall also have as an integral part of the gun carriage, a high pressure air spray capable of cleaning the pavement immediately prior to making application.

The equipment shall be capable of spraying both yellow and white polyurea, according to the manufacturer's recommended proportions and be mounted on a truck of sufficient size and stability with an adequate power source to produce lines of uniform dimensions and prevent application failure. The truck shall have at least two polyurea tanks each of 110 gal (415 L) minimum capacity and be equipped with hydraulic systems and agitators. It shall be capable of placing stripes on the left and right sides and placing two lines on a three-line system simultaneously with either line in a solid or intermittent pattern, in yellow or white, and applying the appropriate reflective media according to manufacturer's recommendations. All guns shall be in full view of operations at all times. The equipment shall have a metering device to register

the accumulated installed quantities for each gun, each day. Each vehicle shall include at least one operator who shall be a technical expert in equipment operations and polyurea application techniques. Certification of equipment shall be provided at the pre-construction conference.

The mobile applicator shall include the following features:

- (a) Material Reservoirs. The applicator shall provide individual material reservoirs, or space for the storage of Part A and Part B of the resin composition.
- (b) Heating Equipment. The applicator shall be equipped with heating equipment of sufficient capacity to maintain the individual resin components at the manufacturer's recommended temperature of ± 5 °F (± 2.8 °C) for spray application.
- (c) Dispensing Equipment. The applicator shall be equipped with glass bead and/or reflective element dispensing equipment. The applicator shall be capable of applying the glass beads and/or reflective elements at a rate and combination indicated by the manufacturer.
- (d) Volumetric Usage. The applicator shall be equipped with metering devices or pressure gauges on the proportioning pumps as well as stroke counters to monitor volumetric usage. Metering devices or pressure gauges and stroke counters shall be visible to the Engineer.
- (e) Pavement Marking Placement. The applicator shall be equipped with all the necessary spray equipment, mixers, compressors and other appurtenances to allow for the placement of reflectorized pavement markings in a simultaneous sequence of operations.

The Contractor shall provide an accurate temperature-measuring device(s) that shall be capable of measuring the pavement temperature prior to application of the material, the material temperature at the gun tip and the material temperature prior to mixing.

CONSTRUCTION REQUIREMENTS

General. The pavement shall be cleaned by a method approved by the Engineer to remove all dirt, grease, glaze, or any other material that would reduce the adhesion of the markings with minimum or no damage to the pavement surface. New portland cement concrete pavements shall be air-blast-cleaned to remove all latents.

Widths, lengths, and shapes of the cleaned surface shall be of sufficient size to include the full area of the specified pavement marking to be placed.

The cleaning operation shall be a continuous moving operation process with minimum interruption to traffic.

Markings shall be applied to the cleaned surfaces on the same calendar day. If this cannot be accomplished, the surface shall be re-cleaned prior to applying the markings. No markings shall be applied until the Engineer approves the cleaning.

The pavement markings shall be applied to the cleaned road surface, during conditions of dry weather and subsequently dry pavement surfaces at a minimum uniform wet thickness of 15 mils (0.4 mm) according to the manufacturer's installation instructions. On new hot-mix asphalt (HMA) surfaces the pavement markings shall be applied at a minimum uniform wet thickness of 20 mils (0.5 mm). The application of and combination of reflective media (glass beads and/or reflective elements) shall be applied at a rate specified by the manufacturer. At the time of installation the pavement surface temperature and the ambient temperature shall be above 40 °F (4 °C) and rising. The pavement markings shall not be applied if the pavement shows any visible signs of moisture or it is anticipated that damage causing moisture, such as rain showers, may occur during the installation and set periods. The Engineer will determine the atmospheric conditions and pavement surface conditions that produce satisfactory results.

Using the application equipment, the pavement markings shall be applied in the following manner, as a simultaneous operation:

- (a) The surface shall be air-blasted to remove any dirt and residue.
- (b) The resin shall be mixed and heated according to manufacturer's recommendations and sprayed onto the pavement surface.

The edge of the center line or lane line shall be offset a minimum distance of 2 in. (50 mm) from a longitudinal crack or joint. Edge lines shall be approximately 2 in. (50 mm) from the edge of pavement. The finished center and lane lines shall be straight, with the lateral deviation of any 10 ft (3 m) line not to exceed 1 in. (25 mm).

Notification. The Contractor shall notify the Engineer 72 hours prior to the placement of the markings in order that he/she can be present during the operation. At the time of notification, the Contractor shall provide the Engineer the manufacturer and lot numbers of polyurea and reflective media that will be used.

Inspection. The polyurea pavement markings will be inspected following installation according to Article 780.10 of the Standard Specifications, except, no later than December 15, and inspected following a winter performance period that extends 180 days from December 15.

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

- (a) Contract Quantities. The requirements for the use of contract quantities shall be according to Article 202.07(a).
- (b) Measured Quantities. Lines will be measured for payment in place in feet (meters). Double yellow lines will be measured as two separate lines.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for POLYUREA PAVEMENT MARKING TYPE I – LINE of the line width specified or for POLYUREA PAVEMENT MARKING TYPE II – LINE of the line width specified.

80119

266

PRECAST CONCRETE HANDLING HOLES (BDE)

Effective: January 1, 2007

Add the following to Article 540.02 of the Standard Specifications:

“(g) Handling Hole Plugs..... 1042.16“

Add the following paragraph after the sixth paragraph of Article 540.06 of the Standard Specifications:

“Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar, or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.”

Add the following to Article 542.02 of the Standard Specifications:

“(ee) Handling Hole Plugs 1042.16“

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

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 550.02 of the Standard Specifications:

“(o) Handling Hole Plugs..... 1042.16“

Replace the fourth sentence of the fifth paragraph of Article 550.06 of the Standard Specifications with the following:

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 602.02 of the Standard Specifications:

“(p) Handling Hole Plugs..... 1042.16(a)“

Replace the fifth sentence of the first paragraph of Article 602.07 of the Standard Specifications with the following:

REFLECTIVE SHEETING ON CHANNELIZING DEVICES (BDE)

Effective: April 1, 2007

Revised: November 1, 2008

Revise the seventh paragraph of Article 1106.02 of the Standard Specifications to read:

"At the time of manufacturing, the retroreflective prismatic sheeting used on channelizing devices shall meet or exceed the initial minimum coefficient of retroreflection as specified in the following table. Measurements shall be conducted according to ASTM E 810, without averaging. Sheeting used on cones, drums and flexible delineators shall be reboundable as tested according to ASTM D 4956. Prestriped sheeting for rigid substrates on barricades shall be white and orange. The sheeting shall be uniform in color and devoid of streaks throughout the length of each roll. The color shall conform to the latest appropriate standard color tolerance chart issued by the U.S. Department of Transportation, Federal Highway Administration, and to the daytime and nighttime color requirements of ASTM D 4956.

Initial Minimum Coefficient of Retroreflection candelas/foot candle/sq ft (candelas/lux/sq m) of material				
Observation Angle (deg.)	Entrance Angle (deg.)	White	Orange	Fluorescent Orange
0.2	-4	365	160	150
0.2	+30	175	80	70
0.5	-4	245	100	95
0.5	+30	100	50	40"

Revise the first sentence of the first paragraph of Article 1106.02(c) of the Standard Specifications to read:

"Barricades and vertical panels shall have alternating white and orange stripes sloping downward at 45 degrees toward the side on which traffic will pass."

Revise the third sentence of the first paragraph of Article 1106.02(d) of the Standard Specifications to read:

"The bottom panels shall be 8 x 24 in. (200 x 600 mm) with alternating white and orange stripes sloping downward at 45 degrees toward the side on which traffic will pass."

80183

REINFORCEMENT BARS (BDE)

Effective: November 1, 2005

Revised: April 1, 2009

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

"(a) Reinforcement Bars. Reinforcement bars will be accepted according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reinforcement Bar and/or Dowel Bar Plant Certification Procedure". The Department will maintain an approved list of producers.

(1) Reinforcement Bars (Non-Coated). Reinforcement bars shall be according to ASTM A 706 (A 706M), Grade 60 (420) for deformed bars and the following.

- a. For straight bars furnished in cut lengths and with a well-defined yield point, the yield point shall be determined as the elastic peak load, identified by a halt or arrest of the load indicator before plastic flow is sustained by the bar and dividing it by the nominal cross-sectional area of the bar.
- b. Tensile strength shall be a minimum of 1.20 times the yield strength.
- c. For bars straightened from coils or bars bent from fabrication, there shall be no upper limit on yield strength; and for bar designation Nos. 3 - 6 (10 - 19), the elongation after rupture shall be at least 9%.
- d. Heat Numbers. Bundles or bars at the construction site shall be marked or tagged with heat identification numbers of the bar producer.
- e. Guided Bend Test. Bars may be subject to a guided bend test across two pins which are free to rotate, where the bending force shall be centrally applied with a fixed or rotating pin of a certain diameter as specified in Table 3 of ASTM A 706 (A 706M). The dimensions and clearances of this guided bend test shall be according to ASTM E 190.
- f. Spiral Reinforcement. Spiral reinforcement shall be deformed or plain bars conforming to the above requirements or cold-drawn steel wire conforming to AASHTO M 32.

(2) Epoxy Coated Reinforcement Bars. Epoxy coated reinforcement bars shall be according to Article 1006.10(a)(1) and shall be epoxy coated according to AASHTO M 284 (M 284M) and the following.

- a. Certification. The epoxy coating applicator shall be certified according to the current Bureau of Materials and Physical Research Policy Memorandum, "Epoxy

Coating Plant Certification Procedure". The Department will maintain an approved list.

- b. Coating Thickness. When spiral reinforcement is coated after fabrication, the thickness of the epoxy coating shall be 7 to 20 mils (0.18 to 0.50 mm).
- c. Cutting Reinforcement. Reinforcement bars may be sheared or sawn to length after coating, providing the end damage to the coating does not extend more than 0.5 in. (13 mm) back and the cut is patched before any visible rusting appears. Flame cutting will not be permitted."

80151

REINFORCEMENT BARS - STORAGE AND PROTECTION (BDE)

Effective: August 1, 2008

Revised: April 1, 2009

Revise Article 508.03 of the Standard Specifications to read:

508.03 Storage and Protection. Reinforcement bars shall be stored off the ground using platforms, skids, or other supports; and shall be protected from mechanical injury and from deterioration by exposure. Epoxy coated bars shall be stored on wooden or padded steel cribbing and all systems for handling shall have padded contact areas. The bars or bundles shall not be dragged or dropped.

When epoxy coated bars are stored in a manner where they will be exposed to the weather more than 60 days prior to use, they shall be protected from deterioration such as that caused by sunlight, salt spray, and weather exposure. The protection shall consist of covering with opaque polyethylene sheeting or other suitable opaque material. The covering shall be secured and allow for air circulation around the bars to minimize condensation under the cover.

Covering of the epoxy coated bars will not be required when the bars are installed and tied, or when they are partially incorporated into the concrete."

80206

SEEDING (BDE)

Effective: July 1, 2004

Revised: July 1, 2009

Revise the following seeding mixtures shown in Table 1 of Article 250.07 of the Standard Specifications to read:

"Table 1 - SEEDING MIXTURES		
Class – Type	Seeds	lb/acre (kg/hectare)
1A Salt Tolerant Lawn Mixture 7/	Bluegrass Perennial Ryegrass Red Fescue (Audubon, Sea Link, or Epic) Hard Fescue (Rescue 911, Spartan II, or Reliant IV) Fults Salt Grass 1/ or Salty Alkaligrass	60 (70) 20 (20) 20 (20) 20 (20) 60 (70)
2 Roadside Mixture 7/	Tall Fescue (Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV) Perennial Ryegrass Creeping Red Fescue Red Top	100 (110) 50 (55) 40 (50) 10 (10)
2A Salt Tolerant Roadside Mixture 7/	Tall Fescue (Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV) Perennial Ryegrass Red Fescue (Audubon, Sea Link, or Epic) Hard Fescue (Rescue 911, Spartan II, or Reliant IV) Fults Salt Grass 1/ or Salty Alkaligrass	60 (70) 20 (20) 30 (20) 30 (20) 60 (70)
3 Northern Illinois Slope Mixture 7/	Elymus Canadensis (Canada Wild Rye) Perennial Ryegrass Alsike Cover 2/ Desmanthus Illinoensis (Illinois Bundleflower) 2/, 5/ Andropogon Scoparius (Little Bluestem) 5/ Bouteloua Curtipendula (Side-Oats Grama) Fults Salt Grass 1/ or Salty Alkaligrass Oats, Spring Slender Wheat Grass 5/ Buffalo Grass (Cody or Bowie) 4/, 5/, 9/	5 (5) 20 (20) 5 (5) 2 (2) 12 (12) 10 (10) 30 (35) 50 (55) 15 (15) 5 (5)

"Table 1 - SEEDING MIXTURES			
6A	Salt Tolerant Conservation Mixture	Andropogon Scoparius (Little Bluestem) 5/	5 (5)
		Elymus Canadensis (Canada Wild Rye) 5/	2 (2)
		Buffalo Grass (Cody or Bowie) 4/, 5/, 9/	5 (5)
		Vernal Alfalfa 2/	15 (15)
		Oats, Spring	48 (55)
		Fults Salt Grass 1/ or Salty Alkaligrass	20 (20)"

Revise Note 7 of Table 1 – Seeding Mixtures of Article 250.07 of the Standard Specifications to read:

"7/ In Districts 1 through 6, the planting times shall be April 1 to June 15 and August 1 to November 1. In Districts 7 through 9, the planting times shall be March 1 to June 1 and August 1 to November 15. Seeding may be performed outside these dates provided the Contractor guarantees a minimum of 75 percent uniform growth over the entire seeded area(s) after a period of establishment. Inspection dates for the period of establishment will be as follows: Seeding conducted in Districts 1 through 6 between June 16 and July 31 will be inspected after April 15 and seeding conducted between November 2 and March 31 will be inspected after September 15. Seeding conducted in Districts 7 through 9 between June 2 and July 31 will be inspected after April 15 and seeding conducted between November 16 and February 28 will be inspected after September 15. The guarantee shall be submitted to the Engineer in writing prior to performing the work. After the period of establishment, areas not exhibiting 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at no additional cost to the Department."

Delete the last sentence of the first paragraph of Article 1081.04(c)(2) of the Standard Specifications.

Revise Table II of Article 1081.04(c)(6) of the Standard Specifications to read:

TABLE II						
Variety of Seeds	Hard Seed %	Purity %	Pure Live Seed %	Weed %	Secondary * Noxious Weeds No. per oz (kg)	Notes
	Max.	Min.	Min.	Max.	Max. Permitted	
Alfalfa	20	92	89	0.50	6 (211)	1/
Clover, Alsike	15	92	87	0.30	6 (211)	2/
Red Fescue, Audubon	0	97	82	0.10	3 (105)	-
Red Fescue, Creeping	-	97	82	1.00	6 (211)	-
Red Fescue, Epic	-	98	83	0.05	1 (35)	-
Red Fescue, Sea Link	-	98	83	0.10	3 (105)	-
Tall Fescue, Blade Runner	-	98	83	0.10	2 (70)	-
Tall Fescue, Falcon IV	-	98	83	0.05	1 (35)	-
Tall Fescue, Inferno	0	98	83	0.10	2 (70)	-

TABLE II						
Variety of Seeds	Hard Seed %	Purity %	Pure Live Seed %	Weed %	Secondary * Noxious Weeds No. per oz (kg)	Notes
	Max.	Min.	Min.	Max.	Max. Permitted	
Tall Fescue, Tarheel II	-	97	82	1.00	6 (211)	-
Tall Fescue, Quest	0	98	83	0.10	2 (70)	-
Fults Salt Grass	0	98	85	0.10	2 (70)	-
Salty Alkaligrass	0	98	85	0.10	2 (70)	-
Kentucky Bluegrass	-	97	80	0.30	7 (247)	4/
Oats	-	92	88	0.50	2 (70)	3/
Redtop	-	90	78	1.80	5 (175)	3/
Ryegrass, Perennial, Annual	-	97	85	0.30	5 (175)	3/
Rye, Grain, Winter	-	92	83	0.50	2 (70)	3/
Hard Fescue, Reliant IV	-	98	83	0.05	1 (35)	-
Hard Fescue, Rescue 911	0	97	82	0.10	3 (105)	-
Hard Fescue, Spartan II	-	98	83	0.10	3 (105)	-
Timothy	-	92	84	0.50	5 (175)	3/
Wheat, hard Red Winter	-	92	89	0.50	2 (70)	3/

Revise the first sentence of the first paragraph of Article 1081.04(c)(7) of the Standard Specifications to read:

"The seed quantities indicated per acre (hectare) for Prairie Grass Seed in Classes 3, 3A, 4, 4A, 6, and 6A in Article 250.07 shall be the amounts of pure, live seed per acre (hectare) for each species listed."

80131

SELF-CONSOLIDATING CONCRETE FOR CAST-IN-PLACE CONSTRUCTION (BDE)

Effective: November 1, 2005

Revised: January 1, 2009

Definition. Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation.

Usage. Self-consolidating concrete may be used for cast-in-place concrete construction items involving Class MS, DS, and SI concrete.

Materials. Materials shall be according to Section 1021 of the Standard Specifications.

Mix Design Criteria. Article 1020.04 of the Standard Specifications shall apply, except as follows:

- (a) The cement factor shall be according to Article 1020.04 of the Standard Specifications. If the maximum cement factor is not specified, it shall not exceed 7.05 cwt/cu yd (418 kg/cu m). The cement factor shall not be reduced if a water-reducing, retarding, or high range water-reducing admixture is used.
- (b) The maximum allowable water/cement ratio shall be according to Article 1020.04 of the Standard Specifications or 0.44, whichever is lower.
- (c) The slump requirements shall not apply.
- (d) The coarse aggregate gradations shall be CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 may be used when the Contractor provides satisfactory evidence to the Engineer that the mix will not segregate. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used.
- (e) The slump flow range shall be ± 2 in. (± 50 mm) of the Contractor target value, and within the overall Department range of 20 in. (510 mm) minimum to 28 in. (710 mm) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 4 in. (100 mm). The Contractor may specify a lower maximum in the mix design.
- (h) The L-box blocking ratio shall be a minimum of 60 percent. The Contractor may specify a higher minimum in the mix design.
- (i) The column segregation index shall be a maximum 15 percent.
- (j) The hardened visual stability index shall be a maximum of 1.

Test Methods. Illinois Test Procedures SCC-1, SCC-2, SCC-3, SCC-4, SCC-5, SCC-6, and Illinois Modified AASHTO T 22, 23, 121, 126, 141, 152, 177, 196, and 309 shall be used for testing of self-consolidating concrete mixtures.

Mix Design Submittal. The Contractor's Level III PCC Technician shall submit a mix design according to the "Portland Cement Concrete Level III Technician" course manual, except target slump information is not applicable and will not be required. However, a slump flow target range shall be submitted. In addition, the design mortar factor may exceed 1.10 and durability test data will be waived.

A J-ring value shall be submitted if a lower mix design maximum will apply. An L-box blocking ratio shall be submitted if a higher mix design minimum will apply. The Contractor shall also indicate applicable construction items for the mix design.

Trial mixture information will be required by the Engineer. A trial mixture is a batch of concrete tested by the Contractor to verify the Contractor's mix design will meet specification requirements. Trial mixture information shall include test results as specified in the "Portland Cement Concrete Level III Technician" course manual. Test results shall also include slump flow, visual stability index, J-ring value, L-box blocking ratio, column segregation index, and hardened visual stability index. For the trial mixture, the slump flow shall be near the midpoint of the proposed slump flow target range.

Trial Batch. A minimum 2 cu yd (1.5 cu m) trial batch shall be produced, and the self-consolidating concrete admixture dosage proposed by the Contractor shall be used. The slump flow shall be within 1.0 in. (25 mm) of the maximum slump flow range specified by the Contractor, and the air content shall be within the top half of the allowable specification range.

The trial batch shall be scheduled a minimum of 21 calendar days prior to anticipated use and shall be performed in the presence of the Engineer.

The Contractor shall provide the labor, equipment, and materials to test the concrete. The mixture will be evaluated by the Engineer for strength, air content, slump flow, visual stability index, J-ring value, L-box blocking ratio, column segregation index, and hardened visual stability index.

Upon review of the test data from the trial batch, the Engineer will verify or deny the use of the mix design and notify the Contractor. Verification by the Engineer will include the Contractor's target slump flow range. If applicable, the Engineer will verify the Contractor's maximum J-ring value and minimum L-box blocking ratio.

A new trial batch will be required whenever there is a change in the source of any component material, proportions beyond normal field adjustments, dosage of the self-consolidating concrete admixture, batch sequence, mixing speed, mixing time, or as determined by the Engineer. The testing criteria for the new trial batch will be determined by the Engineer.

When necessary, the trial batches shall be disposed of according to Article 202.03 of the Standard Specifications.

Mixing Portland Cement Concrete. In addition to Article 1020.11 of the Standard Specifications, the mixing time for central-mixed concrete shall not be reduced as a result of a mixer performance test. Truck-mixed or shrink-mixed concrete shall be mixed in a truck mixer for a minimum of 100 revolutions.

Wash water, if used, shall be completely discharged from the drum or container before the succeeding batch is introduced.

The batch sequence, mixing speed, and mixing time shall be appropriate to prevent cement balls and mix foaming for central-mixed, truck-mixed, and shrink-mixed concrete.

Falsework and Forms. In addition to Articles 503.05 and 503.06 of the Standard Specifications, the Contractor shall ensure the design of the falsework and forms is adequate for the additional form pressure caused by the fluid concrete. Forms shall be tight to prevent leakage of fluid concrete.

When the form height for placing the self-consolidating concrete is greater than 10.0 ft (3.0 m), direct monitoring of form pressure shall be performed according to Illinois Test Procedure SCC-10. The monitoring requirement is a minimum, and the Contractor shall remain responsible for adequate design of the falsework and forms. A minimum of one sensor will be required below each point of concrete placement to measure the maximum pressure. The first sensor below the point of concrete placement shall be approximately 12 in. (300 mm) above the base of the formwork. Additional sensors shall be installed above the bottom sensor when the form height is greater than 10.0 ft (3.0 m) above the bottom sensor. The additional sensors shall be installed at a maximum vertical spacing of 10.0 ft (3.0 m). The Contractor shall record the formwork pressure during concrete placement. This information shall be used by the Contractor to prevent the placement rate from exceeding the maximum formwork pressure allowed, to monitor the thixotropic change in the concrete during the pour, and to make appropriate adjustments to the mix design. This information shall be provided to the Engineer during the pour.

Placing and Consolidating. Concrete placement and consolidation shall be according to Article 503.07 of the Standard Specifications, except as follows:

Revise the third paragraph of Article 503.07 of the Standard Specifications to read:

“Open troughs and chutes shall extend as nearly as practicable to the point of deposit. The drop distance of concrete shall not exceed 5 ft (1.5 m). If necessary, a tremie shall be used to meet this requirement. The maximum distance of horizontal flow from the point of deposit shall be 25 ft (7.6 m), unless approved otherwise by the Engineer. For drilled shafts, free fall placement will not be permitted.”

Delete the seventh, eighth, ninth, and tenth paragraphs of Article 503.07 of the Standard Specifications.

Add to the end of the eleventh paragraph of Article 503.07 of the Standard Specifications the following:

“Concrete shall be rodded with a piece of lumber, conduit, or vibrator if the material has lost its fluidity prior to placement of additional concrete. The vibrator shall be the pencil head type with a maximum diameter or width of 1 in. (25 mm). Any other method for restoring the fluidity of the concrete shall be approved by the Engineer.”

Quality Control by Contractor at Plant. The specified test frequencies for aggregate gradation, aggregate moisture, air content, unit weight/yield, and temperature shall be performed as indicated in the contract.

Slump flow, visual stability index, and J-ring or L-box tests shall be performed as needed to control production. The column segregation index test and hardened visual stability index test will not be required to be performed at the plant.

Quality Control by Contractor at Jobsite. The specified test frequencies for air content, strength, and temperature shall be performed as indicated in the contract.

Slump flow, visual stability index, and J-ring or L-box tests shall be performed on the first two truck deliveries of the day, and every 50 cu yd (40 cu m) thereafter. The Contractor shall select either the J-ring or L-box test for jobsite testing.

The column segregation index test will not be required to be performed at the jobsite. The hardened visual stability index test shall be performed on the first truck delivery of the day, and every 300 cu yd (230 cu m) thereafter. Slump flow, visual stability index, J-ring value or L-box blocking ratio, air content, and concrete temperature shall be recorded for each hardened visual stability index test.

The Contractor shall retain all hardened visual stability index cut cylinder specimens until the Engineer notifies the Contractor that the specimens may be discarded.

If mix foaming or other potential detrimental material is observed during placement or at the completion of the pour, the material shall be removed while the concrete is still plastic.

Quality Assurance by Engineer at Plant. For air content and aggregate gradation, quality assurance independent sample testing and split sample testing will be performed as indicated in the contract.

For slump flow, visual stability index, and J-ring or L-box tests, quality assurance independent sample testing and split sample testing will be performed as determined by the Engineer.

Quality Assurance by Engineer at Jobsite. For air content and strength, quality assurance independent sample testing and split sample testing will be performed as indicated in the contract.

For slump flow, visual stability index, J-ring or L-box, and hardened visual stability index tests, quality assurance independent sample testing will be performed as determined by the Engineer.

For slump flow and visual stability index quality assurance split sample testing, the Engineer will perform tests at the beginning of the project on the first three tests performed by the Contractor. Thereafter, a minimum of ten percent of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design. The acceptable limit of precision will be 1.5 in. (40 mm) for slump flow and a limit of precision will not apply to the visual stability index.

For the J-ring or the L-box quality assurance split sample testing, a minimum of 80 percent of the total tests required of the Contractor will be witnessed by the Engineer per plant, which will include a minimum of one witnessed test per mix design. The Engineer reserves the right to conduct quality assurance split sample testing. The acceptable limit of precision will be 1.5 in. (40 mm) for the J-ring value and ten percent for the L-box blocking ratio.

For each hardened visual stability index test performed by the Contractor, the cut cylinders shall be presented to the Engineer for determination of the rating. The Engineer reserves the right to conduct quality assurance split sample testing. A limit of precision will not apply to the hardened visual stability index.

80152

SELF-CONSOLIDATING CONCRETE FOR PRECAST PRODUCTS (BDE)

Effective: July 1, 2004

Revised: January 1, 2007

Definition. Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation.

Usage. Self-consolidating concrete may be used for precast concrete products.

Materials. Materials shall be according to Section 1021 of the Standard Specifications.

Mix Design Criteria. The mix design criteria shall be as follows:

- (a) The minimum cement factor shall be according to Article 1020.04 of the Standard Specifications. If the maximum cement factor is not specified, it shall not exceed 7.05 cwt/cu yd (418 kg/cu m).
- (b) The maximum allowable water/cement ratio shall be according to Article 1020.04 of the Standard Specifications or 0.44, whichever is lower.
- (c) The slump requirements of Article 1020.04 of the Standard Specifications shall not apply.
- (d) The coarse aggregate gradations shall be CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 may be used when the Contractor provides satisfactory evidence to the Engineer that the mix will not segregate. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used.
- (e) The slump flow range shall be ± 2 in. (± 50 mm) of the Contractor target value, and within the overall Department range of 20 in. (510 mm) minimum to 28 in. (710 mm) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 4 in. (100 mm). The Contractor may specify a lower maximum in the mix design.
- (h) The L-box blocking ratio shall be a minimum of 60 percent. The Contractor may specify a higher minimum in the mix design.
- (i) The column segregation index shall be a maximum 15 percent.
- (j) The hardened visual stability index shall be a maximum of 1.

Placing and Consolidating. The maximum distance of horizontal flow from the point of deposit shall be 25 ft (7.6 m), unless approved otherwise by the Engineer.

Concrete shall be rodded with a piece of lumber, conduit, or vibrator if the material has lost its fluidity prior to placement of additional concrete. The vibrator shall be the pencil head type with a maximum diameter or width of 1 in. (25 mm). Any other method for restoring the fluidity of the concrete shall be approved by the Engineer.

Mix Design Approval. The Contractor shall obtain mix design approval according to the Department's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products".

80132

SILT FILTER FENCE (BDE)

Effective: January 1, 2008

For silt filter fence fabric only, revise Article 1080.02 of the Standard Specifications to read:

“1080.02 Geotextile Fabric. The fabric for silt filter fence shall be a woven fabric meeting the requirements of AASHTO M 288 for unsupported silt fence with less than 50 percent geotextile elongation.”

Replace the last sentence of Article 1081.15(b) of the Standard Specifications with the following:

“Silt filter fence stakes shall be a minimum of 4 ft (1.2 m) long and made of either wood or metal. Wood stakes shall be 2 in. x 2 in. (50 mm x 50 mm). Metal stakes shall be a standard T or U shape having a minimum weight (mass) of 1.32 lb/ft (600 g/300 mm).”

80197

STEEL PLATE BEAM GUARDRAIL (BDE)

Effective: November 1, 2005

Revised: August 1, 2007

Revise the first paragraph of Article 1006.25 of the Standard Specifications to read:

"1006.25 Steel Plate Beam Guardrail. Steel plate beam guardrail, including bolts, nuts, and washers, shall be according to AASHTO M 180. The guardrail shall be Class A, with a Type II galvanized coating; except the weight (mass) of the coating for each side of the guardrail shall be at least 2.00 oz/sq ft (610 g/sq m). The coating will be determined for each side of the guardrail using the average of at least three non-destructive test readings taken on that side of the guardrail. The minimum average thickness for each side shall be 3.4 mils (86 μ m)."

80153

STONE GRADATION TESTING (BDE)

Effective: November 1, 2007

Revise the first sentence of note 1/ of the Erosion Protection and Sediment Control Gradations table of Article 1005.01(c)(1) of the Standard Specifications to read:

“A maximum of 15 percent of the total test sample by weight may be oversize material.”

80191

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: April 2, 2005

To account for the preparatory work and operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting in accordance with Article 108.01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be equal to 3 percent of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor's work.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

80143

TEMPORARY EROSION CONTROL (BDE)

Effective: November 1, 2002

Revised: January 1, 2008

Revise the third paragraph of Article 280.03 of the Standard Specifications to read:

“Erosion control systems shall be installed prior to beginning any activities which will potentially create erodible conditions. Erosion control systems for areas outside the limits of construction such as storage sites, plant sites, waste sites, haul roads, and Contractor furnished borrow sites shall be installed prior to beginning soil disturbing activities at each area. These offsite systems shall be designed by the Contractor and be subject to the approval of the Engineer.”

Add the following paragraph after the third paragraph of Article 280.03 of the Standard Specifications:

“The temporary erosion and sediment control systems shown on the plans represent the minimum systems anticipated for the project. Conditions created by the Contractor’s operations, or for the Contractor’s convenience, which are not covered by the plans, shall be protected as directed by the Engineer at no additional cost to the Department. Revisions or modifications of the erosion and sediment control systems shall have the Engineer’s written approval.”

Add the following paragraph after the ninth paragraph of Article 280.07 of the Standard Specifications:

“Temporary or permanent erosion control systems required for areas outside the limits of construction will not be measured for payment.”

Delete the tenth (last) paragraph of Article 280.08 of the Standard Specifications.

80087

THERMOPLASTIC PAVEMENT MARKINGS (BDE)

Effective: January 1, 2007

Revise Article 1095.01(a)(2) of the Standard Specifications to read:

- "(2) Pigment. The pigment used for the white thermoplastic compound shall be a high-grade pure (minimum 93 percent) titanium dioxide (TiO_2). The white pigment content shall be a minimum of ten percent by weight and shall be uniformly distributed throughout the thermoplastic compound.

The pigments used for the yellow thermoplastic compound shall not contain any hazardous materials listed in the Environmental Protection Agency Code of Federal Regulations (CFR) 40, Section 261.24, Table 1. The combined total of RCRA listed heavy metals shall not exceed 100 ppm when tested by X-ray fluorescence spectroscopy. The pigments shall also be heat resistant, UV stable and color-fast yellows, golds, and oranges, which shall produce a compound which shall match Federal Standard 595 Color No. 33538. The pigment shall be uniformly distributed throughout the thermoplastic compound."

Revise Article 1095.01(b)(1)e. of the Standard Specifications to read:

- "e. Daylight Reflectance and Color. The thermoplastic compound after heating for four hours \pm five minutes at 425 ± 3 °F (218.3 ± 2 °C) and cooled at 77 °F (25 °C) shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degree circumferential/zero degree geometry, illuminant C, and two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

White: Daylight Reflectance75 percent min.

*Yellow: Daylight Reflectance45 percent min.

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

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456"

Revise Article 1095.01(b)(1)k. of the Standard Specifications to read:

- "k. Accelerated Weathering. After heating the thermoplastic for four hours \pm five minutes at 425 ± 3 °F (218.3 ± 2 °C) the thermoplastic shall be applied to a steel wool abraded aluminum alloy panel (Federal Test Std. No. 141, Method 2013) at a film thickness of 30 mils (0.70 mm) and allowed to cool for 24 hours at room temperature. The coated panel shall be subjected to accelerated weathering

using the light and water exposure apparatus (fluorescent UV - condensation type) for 75 hours according to ASTM G 53 (equipped with UVB-313 lamps).

The cycle shall consist of four hours UV exposure at 122 °F (50 °C) followed by four hours of condensation at 104 °F (40 °C). UVB 313 bulbs shall be used. At the end of the exposure period, the panel shall not exceed 10 Hunter Lab Delta E units from the original material."

80176

TRAINING SPECIAL PROVISIONS (BDE) 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 5. 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.

20338

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within *130* working days.

80071

PERMANENT STEEL SHEET PILING

Effective: December 15, 1993

Revised: January 1, 2007

Description. This work shall consist of furnishing and installing the permanent sheet piling to the limits and tolerances shown on the plans according to Section 512 of the Standard Specifications.

Material. The sheet piling shall be made of steel and shall be new material. The sheeting shall have a minimum yield strength of 38.5 ksi (265 MPa) unless otherwise specified. The sheeting 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.

The Contractor shall select from the following table, a sheet pile section to be used for each wall section with an "effective section modulus" equal to or larger than that specified on the plans.

SHEET PILE SECTION DESIGNATION	EFFECTIVE SECTION MODULUS * in ³ /ft. (10 ³ mm ³ /m)	SHEET PILE SECTION DESIGNATION	EFFECTIVE SECTION MODULUS * in ³ /ft. (10 ³ mm ³ /m)
SZ-10	3.5 (189)	SZ-22	13.5 (728)
SZ-11	4.0 (216)	SPZ-23.5	13.6 (729)
SZ-12	5.1 (277)	PZ-22	15.3 (823)
SZ-14	6.2 (331)	SZ-222	18.0 (968)
CZ-67	6.5 (349)	SZ-24	19.9 (1072)
SZ-15	6.6 (356)	CZ-114RD	20.1 (1082)
CZ-72	7.3 (393)	PZC-13	20.4 (1098)
SZ-14.5	8.3 (445)	SZ-25	20.5 (1105)
SPZ-16	8.4 (452)	PLZ-23	20.7 (1113)
CZ-84	8.9 (480)	SPZ-23	21.4 (1153)
CZ-95RD	10.2 (550)	CZ-114	21.7 (1165)
CZ-95	10.5 (566)	SZ-27	22.4 (1206)
SZ-18	10.9 (588)	PLZ-25	23.0 (1236)
SPZ-19.5	11.2 (604)	SPZ-26	24.4 (1311)
CZ-101	11.3 (609)	CZ-128	24.8 (1332)
SZ-20	12.0 (648)	PZ-27	25.5 (1371)
CZ-107	12.1 (653)	CZ-141	27.9 (1497)
SZ-21	12.5 (674)	PZC-18	28.3 (1520)
SPZ-22	12.7 (682)	CZ-148	29.4 (1581)
CZ-113	12.9 (695)	PZ-35	43.6 (2344)
		PZ-40	54.6 (2932)

* Effective Section Modulus is computed by taking the effects of corrosion loss allowances and the Hartman reduction factor.

The selection of the sheet pile section shall not relieve the Contractor of the responsibility to satisfy all details including minimum clearances, cover, embedments, reinforcement, shear stud locations,

interlocking, and field cutting. Any modifications of the plans to accommodate the Contractor's selection shall be paid for by the Contractor and subject to the approval of the Engineer.

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 construction. 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 construction adjacent to the sheet piling in question.

Method of Measurement. This work will be measured in place in square feet (square meters). Sheet piling associated with other work in this contract or for permanent sheet piling that is cut off or driven beyond those dimensions shown on the plans will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for PERMANENT STEEL SHEET PILING at the location shown on the plans.

TEMPORARY SOIL RETENTION SYSTEM

Effective: December 30, 2002

Revised : May 11, 2009

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 12 in. (300 mm) below the finished grade, or as directed by the Engineer. Removed system components shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where its presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven or installed through or around, with normal driving or installation procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary soil retention system furnished and installed according to the Contractor's approved design or as directed by the Engineer will be measured for payment in place, in square feet (square meters). The area measured shall be the vertical exposed surface area envelope of the excavation supported by temporary soil retention system. Portions of the temporary soil retention system left in place for reuse in later stages of construction shall only be measured for payment once.

Any temporary soil retention system 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 foot (square meter) 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.

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

	Page
I. General	1
II. Nondiscrimination	1
III. Nonsegregated Facilities	3
IV. Payment of Predetermined Minimum Wage.....	3
V. Statements and Payrolls	5
VI. Record of Materials, Supplies, and Labor.....	6
VII. Subletting or Assigning the Contract.....	6
VIII. Safety: Accident Prevention	7
IX. False Statements Concerning Highway Projects.....	7
X. Implementation of Clean Air Act and Federal Water Pollution Control Act	7
XI. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion	8
XII. Certification Regarding Use of Contract Funds for Lobbying	9

ATTACHMENTS

**A. Employment Preference for Appalachian Contracts
(included in Appalachian contracts only)**

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4 and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. Selection of Labor: During the performance of this contract, the contractor shall not:

- a. Discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

- b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60 (and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their

review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following

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

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

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

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

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

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

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

applicants for employment and potential employees.

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

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

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

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

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

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

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

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

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

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be

in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

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

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

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

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

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

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

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees.

Contractors shall obtain lists of DBE construction firms from SHA

personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

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

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

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

(3) The progress and efforts being made in locating, hiring, training,

qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of

DBE subcontractors or subcontractors with meaningful minority and

female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located

on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the

contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

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

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

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

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

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

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any

employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid

the full amount of fringe benefits listed on the wage determination

for the applicable classification. If the Administrator for the Wage

and Hour Division determines that a different practice prevails for

the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

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

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which cases such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration

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

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV. 2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

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

6. Withholding:

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

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or

permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall; upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely

all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for submitting payroll copies of all subcontractors.

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

- (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
- (2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
- (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S. C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all federal-aid contracts on the national highway system, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

- a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
- b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
- c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data

required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractors' own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in

surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

“Whoever, being an officer, agent or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.”

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more).

By submission of this bid or the execution of this contract, or

subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 *et seq.*, as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et seq.*, as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal

is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification in all lower tier covered transactions

and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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.

2. Where the prospective primary participant is unable to certify

**Certification Regarding Debarment, Suspension, Ineligibility And
Voluntary Exclusion-Lower Tier Covered Transactions:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR
LOBBYING**

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

NOTICE

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.