

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

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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. 83827
DUPAGE County
Section 00-00116-00-BR (Naperville)
Route FAU 3570 (Jefferson Avenue)
Project BRM-8003(032)
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. 83827
DUPAGE County
Section 00-00116-00-BR (Naperville)
Project BRM-8003(032)
Route FAU 3570 (Jefferson Avenue)
District 1 Construction Funds**

0.17 mile bridge removal and replacement and roadway reconstruction with storm sewers, earth excavation, curb and gutter, landscaping and pavement marking on Jefferson Avenue over the west branch of the DuPage River in Naperville.

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-91-138-01
 PPS NBR - 1-10204-0000

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83827

ECMS002 DTGECM03 ECMR003 PAGE 1
 RUN DATE - 08/20/09
 RUN TIME - 183252

COUNTY NAME	CODE	DIST	SECTION NUMBER	PROJECT NUMBER	ROUTE
DUPAGE	043	01	00-00116-00-BR (NAPERVILLE)	BRM-8003/032/000	FAU 3570

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	CENTS	TOTAL PRICE DOLLARS	CTS
A2008140	T-TILIA CORD GS 5	EACH	1.000		=		
C2C03424	S-HYDRA ARBOR AN 2'C	EACH	42.000		=		
C2C05824	S-RHUS AROMA GRO 2'C	EACH	45.000		=		
C2006148	S-RHUS TYPH LAC 4'	EACH	12.000		=		
C2007218	S-ROSA KNOCKOUT 18	EACH	27.000		=		
C2012136	S-VIBURN X JUD 3'	EACH	3.000		=		
C2012760	S-VIBURN PRUN 5'	EACH	3.000		=		
D2002788	E-PINUS NIGRA 8'	EACH	5.000		=		
D2003524	E-TAXUS X MD DN 2'	EACH	5.000		=		
K0026830	SHRUB REMOVAL	EACH	28.000		=		
K0039117	SHRUB CHAEN SPEC 18C	EACH	40.000		=		
K0040350	GC WALDSTENIA FRAG 3"	EACH	480.000		=		
K1004490	PINEBARK FINES MULCH	CU YD	3.000		=		
K1004600	REMOVE PERENNIALS	EACH	40.000		=		
K1004610	SEASONAL ANNUALS	SQ FT	67.000		=		

FAU 3570
 00-00116-00-BR (NAPERVILLE)
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
K1004700	ACCENT BOULDER 30"	EACH	2.000 X	=			
K1005481	SHRED BARK MULCH 3	SQ YD	240.000 X	=			
K1005875	TREE TRANSPLANT	EACH	4.000 X	=			
XX000406	BRICK PAVER REM & REP	SQ FT	480.000 X	=			
XX000504	RESTORATION WORK	L SUM	1.000 X	=			
XX003435	PCC DRIVE REM & REPL	SQ YD	102.000 X	=			
XX004809	UNDR BRIDGE COND SYS	L SUM	1.000 X	=			
XX005581	VIDEO TAPE	UNIT	1.000 X	=			
XX005593	N SWITCHGEAR VAULT	EACH	1.000 X	=			
XX005594	FA-2 ENCASUREMENT	CU YD	45.000 X	=			
XX005595	TRENCH BACKFILL CA-6	CU YD	165.000 X	=			
XX005597	ROD AND MANDREL	FOOT	8,000.000 X	=			
XX005598	ADD GROUND ROD INSTL	EACH	6.000 X	=			
XX005600	COUNTERPOISE, UNPAVED	FOOT	400.000 X	=			
XX005601	COUNTERPOISE, PAVED	FOOT	800.000 X	=			

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
XX005602	HAND DIG 0'-5' PAV'T	CU YD	40.000	=			
XX005603	HAND DIG 5'-20' PAV'T	CU YD	30.000	=			
XX005604	HAND DIG 0'-5' UNPAVD	CU YD	40.000	=			
XX005605	HAND DIG 5'-20' UNPAV	CU YD	30.000	=			
XX005606	MACH AID DIG 0-5 PAVE	CU YD	60.000	=			
XX005608	MAC AID DIG 0-5 UNPAV	CU YD	60.000	=			
XX005896	CONCRETE PAD REMOVAL	SQ FT	36.000	=			
XX005987	MACH AID DIG 5-20 PVT	CU YD	30.000	=			
XX005989	MACH AID DIG 5-20 UPA	CU YD	60.000	=			
XX006947	HMA DRIVE REM & REP	SQ YD	102.000	=			
XX007055	HANDHOLE, DEH6	EACH	1.000	=			
XX007138	2W 3 PVCDB 1 X 2	FOOT	30.000	=			
XX007141	2W 6 PVCDB 1 X 2	FOOT	90.000	=			
XX007594	MAN INSTALL TYPE G	EACH	2.000	=			
XX007595	MAN INSTALL TYPE E	EACH	1.000	=			

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE
				DOLLARS	CENTS	
XX007596	CON T TRANS & TRANSP	EACH	2.000	=		
XX007625	6W 6-6 PVC DB 2X3	FOOT	400.000	X	=	
XX007627	8W 6-6 2-3 PVCDB 3X3	FOOT	150.000	X	=	
XX007628	8W 8-6 PVC DB 3X3	FOOT	10.000	X	=	
XX007629	9W 9-6 PVC DB 3X3	FOOT	60.000	X	=	
XX007747	PARK BENCH REM & REL	EACH	2.000	X	=	
XX008136	HDPE S SEW BEND 45 3"	EACH	2.000	X	=	
XX008137	P & INST D BANNER POL	EACH	1.000	X	=	
XX008138	REL MET LT POLE FND	EACH	4.000	X	=	
XX008139	REM & REL MEMORIAL ST	L SUM	1.000	X	=	
XX008140	REM & REL EXIST PLAQ	EACH	1.000	X	=	
XX008141	STANDOFF RISER ASS 6"	EACH	1.000	X	=	
XX008142	10 W 8-6 2-3 PVC DB	FOOT	170.000	X	=	
XX008143	9 W 7-6 & 2-3 PVC DB	FOOT	10.000	X	=	
XX008144	4 W 2-3 & 2-6 PVC DB	FOOT	20.000	X	=	

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ILLINOIS DEPARTMENT OF TRANSPORTATION
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
XX008145	SAN FORCEMAIN REM 3"	FOOT	214.000	X	=		
XX008146	SAN SEW HDPE FRGMN 3"	FOOT	105.000	X	=		
XX008147	SAN SEW PVC SDR 21 8	FOOT	137.000	X	=		
XX008148	U D 4/C 6 XLP DIR BOR	FOOT	863.000	X	=		
XX008149	ROUGH GRADING	SQ YD	100.000	X	=		
XX008159	PCC BAND PAVER BRICKS	FOOT	56.000	X	=		
XX008160	DEC LT SYS COMPLETE	L SUM	1.000	X	=		
XX008161	REM REINST MOD C PAVR	SQ FT	208.000	X	=		
XX008162	MAINTAIN LIGHTING SYS	L SUM	1.000	X	=		
X0320591	SAN MAN REMOVED	EACH	1.000	X	=		
X0321158	PARK BENCHES	EACH	1.000	X	=		
X0321297	REM EX SIGN POST	EACH	1.000	X	=		
X0321309	CONCRETE PAD	SQ YD	4.000	X	=		
X0322033	STORM SEW WM REQ 12	FOOT	41.000	X	=		
X0322256	TEMP INFO SIGNING	SQ FT	103.000	X	=		

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
X0322671	STAB CONSTR ENTRANCE	SQ YD	450.000	X	=		
X0322795	REM RELOC EX MONUMENT	EACH	1.000	X	=		
X0322917	PRO SS CONN TO EX MAN	EACH	3.000	X	=		
X0323080	DRAINAGE SCUPPR DS-12	EACH	6.000	X	=		
X0323350	FUR & SET BRICK PAVEN	SQ FT	550.000	X	=		
X0323706	TRASH RECEPTACLE REL	EACH	1.000	X	=		
X0840000	SAN SEW REMOV 8	FOOT	127.000	X	=		
X0974300	SIGN REMOVAL	EACH	1.000	X	=		
X4021000	TEMP ACCESS- PRIV ENT	EACH	4.000	X	=		
X4022000	TEMP ACCESS- COM ENT	EACH	1.000	X	=		
X4023000	TEMP ACCESS- ROAD	EACH	2.000	X	=		
X5020501	UNWAT STR EX PROT L1	EACH	1.000	X	=		
X5020502	UNWAT STR EX PROT L2	EACH	1.000	X	=		
X5020503	UNWAT STR EX PROT L3	EACH	1.000	X	=		
X5020504	UNWAT STR EX PROT L4	EACH	1.000	X	=		

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
X5428878	CIP RC END SEC 78 SPL	EACH	1.000	=			
X6060150	CONC CURB 6 REINF	FOOT	206.000	=			
X7240600	REM RE-ERECT EX SIGN	EACH	3.000	=			
X8161000	EXP & REL EX UNIT DCT	FOOT	10.000	=			
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000	=			
Z0015500	DEBRIS REMOVAL	L SUM	1.000	=			
Z0018500	DRAINAGE STR CLEANED	EACH	3.000	=			
Z0022800	FENCE REMOVAL	FOOT	25.000	=			
Z0054400	ROCK FILL	CU YD	262.000	=			
Z0062000	SAW CUTTING	FOOT	8.000	=			
20100110	TREE REMOV 6-15	UNIT	556.000	=			
20100210	TREE REMOV OVER 15	UNIT	197.000	=			
20101000	TEMPORARY FENCE	FOOT	730.000	=			
20101100	TREE TRUNK PROTECTION	EACH	43.000	=			
20200100	EARTH EXCAVATION	CU YD	1,750.000	=			

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ILLINOIS DEPARTMENT OF TRANSPORTATION
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
20200205	ROCK EXCAVATION SPL	CU YD	50.000	=			
20200410	EARTH EXCAVATION SPL	CU YD	70.000	=			
20700400	POROUS GRAN EMB SPEC	CU YD	750.000	=			
20700420	POROUS GRAN EMB SUBGR	CU YD	50.000	=			
20800150	TRENCH BACKFILL	CU YD	713.300	=			
21101615	TOPSOIL F & P 4	SQ YD	2,640.000	=			
21101815	COMPOST F & P 4	SQ YD	54.000	=			
25000200	SEEDING CL 2	ACRE	0.010	=			
25000400	NITROGEN FERT NUTR	POUND	65.000	=			
25000500	PHOSPHORUS FERT NUTR	POUND	65.000	=			
25000600	POTASSIUM FERT NUTR	POUND	65.000	=			
25000920	SEEDING CL 1A SPL	ACRE	0.250	=			
25100630	EROSION CONTR BLANKET	SQ YD	14.700	=			
25200110	SODDING SALT TOLERANT	SQ YD	2,640.000	=			
25200200	SUPPLE WATERING	UNIT	27.000	=			

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
25200700	SODDING SPL	SQ YD	200.000	=			
25400105	PERENNIAL PLANTS	EACH	366.000	=			
28000250	TEMP EROS CONTR SEED	POUND	12.000	=			
28000400	PERIMETER EROS BAR	FOOT	727.000	=			
28000510	INLET FILTERS	EACH	5.000	=			
28100107	STONE RIPRAP CL A4	SQ YD	23.000	=			
28100111	STONE RIPRAP CL A6	SQ YD	184.000	=			
28200200	FILTER FABRIC	SQ YD	207.000	=			
31101100	SUB GRAN MAT B	CU YD	385.000	=			
40600100	BIT MATLS PR CT	GALLON	292.000	=			
40600300	AGG PR CT	TON	6.000	=			
40600895	CONSTRUC TEST STRIP	EACH	1.000	=			
40701851	HMA PAVT FD 8 1/2	SQ YD	2,900.000	=			
42001400	BR APPROACH PAVT SPL	SQ YD	348.000	=			
42300400	PCC DRIVEWAY PAVT 8	SQ YD	270.000	=			

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
42400200	PC CONC SIDEWALK 5	SQ FT	4,055.000	=			
42400410	PC CONC SIDEWALK 8	SQ FT	297.000	=			
42400800	DETECTABLE WARNINGS	SQ FT	136.000	=			
44000100	PAVEMENT REM	SQ YD	3,768.000	=			
44000200	DRIVE PAVEMENT REM	SQ YD	134.000	=			
44000500	COMB CURB GUTTER REM	FOOT	1,560.000	=			
44000600	SIDEWALK REM	SQ FT	4,765.000	=			
44001700	COMB C C&G REM & REPL	FOOT	32.000	=			
44002000	CONC CURB REMOV	FOOT	186.000	=			
44004610	SIDEWLK REM & REPL SP	SQ FT	300.000	=			
44201000	CL B PATCH T4 12	SQ YD	100.000	=			
44201796	CL D PATCH T4 12	SQ YD	100.000	=			
50100100	REM EXIST STRUCT	EACH	1.000	=			
50200100	STRUCTURE EXCAVATION	CU YD	1,694.000	=			
50300225	CONC STRUCT	CU YD	561.500	=			

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
50300255	CONC SUP-STR	CU YD	301.600	=			
50300260	BR DECK GROOVING	SQ YD	581.000	=			
50300280	CONCRETE ENCASUREMENT	CU YD	88.000	=			
50300300	PROTECTIVE COAT	SQ YD	1,300.000	=			
50500105	F & E STRUCT STEEL	L SUM	1.000	=			
50500505	STUD SHEAR CONNECTORS	EACH	4,536.000	=			
50800105	REINFORCEMENT BARS	POUND	11,500.000	=			
50800205	REINF BARS, EPOXY CTD	POUND	181,300.000	=			
50800515	BAR SPLICERS	EACH	318.000	=			
50900810	PEDESTRIAN RAIL SPL	FOOT	421.000	=			
50901755	PARAPET RAILING SPL	FOOT	85.000	=			
51500100	NAME PLATES	EACH	1.000	=			
51602000	PERMANENT CASING	FOOT	416.000	=			
51603000	DRILLED SHAFT IN SOIL	CU YD	131.100	=			
51604000	DRILLED SHAFT IN ROCK	CU YD	94.100	=			

FAU 3570
 00-00116-00-BR (NAPERVILLE)
 DUPAGE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83827

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 RUN DATE - 08/20/09
 RUN TIME - 183252

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
52100010	ELAST BEARING ASSY T1	EACH	18.000	X	=		
52100520	ANCHOR BOLTS 1	EACH	36.000	X	=		
52100540	ANCHOR BOLTS 1 1/2	EACH	36.000	X	=		
54213669	PRC FLAR END SEC 24	EACH	1.000	X	=		
54216220	R C PIPE TEE 36P 12R	EACH	1.000	X	=		
54247130	GRATING-C FL END S 24	EACH	1.000	X	=		
550A0050	STORM SEW CL A 1 12	FOOT	19.000	X	=		
550A0240	STORM SEW CL A 1 78	FOOT	32.000	X	=		
550A0410	STORM SEW CL A 2 24	FOOT	192.000	X	=		
55039700	SS CLEANED	FOOT	575.000	X	=		
55100500	STORM SEWER REM 12	FOOT	83.000	X	=		
55101200	STORM SEWER REM 24	FOOT	179.000	X	=		
55102400	STORM SEWER REM 78	FOOT	75.000	X	=		
59100100	GEDCOMPOSITE WALL DR	SQ YD	243.000	X	=		
59300100	CONTR LOW-STRENG MATL	CU YD	26.000	X	=		

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ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
60100060	CONC HDWL FOR P DRAIN	EACH	2.000	X	=		
60100905	PIPE DRAINS 4	FOOT	20.000	X	=		
60221100	MAN TA 5 DIA T1F CL	EACH	1.000	X	=		
60226800	DR MAN TA1-1 5D T1FCL	EACH	1.000	X	=		
60228200	MAN SAN SPL FR & CL	EACH	3.000	X	=		
60235700	INLETS TA T3F&G	EACH	3.000	X	=		
60240220	INLETS TB T3F&G	EACH	2.000	X	=		
60247800	JUNCTION CHAMBER	EACH	1.000	X	=		
60255500	MAN ADJUST	EACH	3.000	X	=		
60265700	VV ADJUST	EACH	2.000	X	=		
60266600	VALVE BOX ADJ	EACH	1.000	X	=		
60500040	REMOV MANHOLES	EACH	1.000	X	=		
60500060	REMOV INLETS	EACH	5.000	X	=		
60603800	COMB CC&G TB6.12	FOOT	1,410.000	X	=		
63200310	GUARDRAIL REMOV	FOOT	168.000	X	=		

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ILLINOIS DEPARTMENT OF TRANSPORTATION
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
66410300	CH LK FENCE REMOV	FOOT	28.000				
67000400	ENGR FIELD OFFICE A	CAL MO	8.000				
67100100	MOBILIZATION	L SUM	1.000				
70101800	TRAF CONT & PROT SPL	L SUM	1.000				
70102550	TR CONT-PROT TEMP DET	EACH	1.000				
70102635	TR CONT & PROT 701701	L SUM	1.000				
70102640	TR CONT & PROT 701801	L SUM	1.000				
78000200	THPL PVT MK LINE 4	FOOT	1,210.000				
78000400	THPL PVT MK LINE 6	FOOT	290.000				
78000600	THPL PVT MK LINE 12	FOOT	150.000				
78000650	THPL PVT MK LINE 24	FOOT	15.000				
78008210	POLYUREA PM T1 LN 4	FOOT	430.000				
81702500	EC C XLP USE AC 6	FOOT	52.000				
81900205	TR & BKFIL ELEC W SPL	FOOT	10.000				
84400105	RELOC EX LT UNIT	EACH	4.000				

FAU 3570
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ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83827

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 RUN DATE - 08/20/09
 RUN TIME - 183252

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE		
				DOLLARS	CENTS	DOLLARS	CTS	
89502300	REM ELCBL FR CON	FOOT	850.000	X				
				TOTAL	\$			

- NOTE:
- EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.
 - 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.
 - IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.
 - 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.

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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.

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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

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

RETURN WITH BID

SPECIAL NOTICE TO CONTRACTORS

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

CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION

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

RETURN WITH BID

**Contract No. 83827
DUPAGE County
Section 00-00116-00-BR (Naperville)
Project BRM-8003(032)
Route FAU 3570 (Jefferson Avenue)
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. 83827
DUPAGE County
Section 00-00116-00-BR (Naperville)
Project BRM-8003(032)
Route FAU 3570 (Jefferson Avenue)
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. 83827
DUPAGE County
Section 00-00116-00-BR (Naperville)
Project BRM-8003(032)
Route FAU 3570 (Jefferson Avenue)
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. 83827
DUPAGE County
Section 00-00116-00-BR (Naperville)
Project BRM-8003(032)
Route FAU 3570 (Jefferson Avenue)
District 1 Construction Funds**

0.17 mile bridge removal and replacement and roadway reconstruction with storm sewers, earth excavation, curb and gutter, landscaping and pavement marking on Jefferson Avenue over the west branch of the DuPage River in Naperville.

- 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)

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RECURRING SPECIAL PROVISIONS

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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
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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	139	<input checked="" 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	142	<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	147	X	Alkali-Silica Reaction for Cast-in-Place Concrete	Aug. 1, 2007	Jan. 1, 2009
80213	146	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	149	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	150	X	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	153	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	156	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	160	X	Concrete Mix Designs	April 1, 2009	
* 80237	162	X	Construction Air Quality – Diesel Vehicle Emissions Control	April 1, 2009	July 1, 2009
* 80239	164	X	Construction Air Quality – Idling Restrictions	April 1, 2009	
80227	166	X	Determination of Thickness	April 1, 2009	
80177			Digital Terrain Modeling for Earthwork Calculations	April 1, 2007	
80029	178	X	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Nov. 1, 2008
80178			Dowel Bars	April 1, 2007	Jan. 1, 2008
80179	186	X	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	189	X	Equipment Rental Rates	Aug. 2, 2007	Jan. 2, 2008
80228			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	191	X	HMA – Hauling on Partially Completed Full-Depth Pavement	Jan. 1, 2008	
80181	193	X	Hot-Mix Asphalt – Field Voids in the Mineral Aggregate	April 1, 2007	April 1, 2008
80201	195	X	Hot-Mix Asphalt – Plant Test Frequency	April 1, 2008	
80202	197	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			Impact Attenuators	Nov. 1, 2003	Nov. 1, 2008
80110			Impact Attenuators, Temporary	Nov. 1, 2003	Jan. 1, 2007
80230	198	X	Liquidated Damages	April 1, 2009	
80196			Mast Arm Assembly and Pole	Jan. 1, 2008	Jan. 1, 2009
80045			Material Transfer Device	June 15, 1999	Jan. 1, 2009
80203	199	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			Multilane Pavement Patching	Nov. 1, 2002	
80180	200	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		Pavement Marking Removal	April 1, 2009	
80022	201	X Payments to Subcontractors	June 1, 2000	Jan. 1, 2006
80235	203	X Payrolls and Payroll Records	March 1, 2009	July 1, 2009
80209	205	X Personal Protective Equipment	Nov. 1, 2008	
80232		Pipe Culverts	April 1, 2009	
80134		Plastic Blockouts for Guardrail	Nov. 1, 2004	Jan. 1, 2007
80119	206	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	213	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	215	X Reflective Sheeting on Channelizing Devices	April 1, 2007	Nov. 1, 2008
80151	216	X Reinforcement Bars	Nov. 1, 2005	April 1, 2009
80206	218	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		Seeding	July 1, 2004	July 1, 2009
80152		Self-Consolidating Concrete for Cast-In-Place Construction	Nov. 1, 2005	Jan. 1, 2009
80132	219	X Self-Consolidating Concrete for Precast Products	July 1, 2004	Jan. 1, 2007
80212		Sign Panels and Sign Panel Overlays	Nov. 1, 2008	
80197	221	X Silt Filter Fence	Jan. 1, 2008	
80127		Steel Cost Adjustment	April 2, 2004	April 1, 2009
80153		Steel Plate Beam Guardrail	Nov. 1, 2005	Aug. 1, 2007
80191	222	X Stone Gradation Testing	Nov. 1, 2007	
80234	223	X Storm Sewers	April 1, 2009	
80143	230	X Subcontractor Mobilization Payments	April 2, 2005	
80075		Surface Testing of Pavements	April 1, 2002	Jan. 1, 2007
80087	231	X Temporary Erosion Control	Nov. 1, 2002	Jan. 1, 2008
80225		Temporary Raised Pavement Marker	Jan. 1, 2009	
80176	232	X Thermoplastic Pavement Markings	Jan. 1, 2007	
20338		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		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
		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
X	234	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
X	243	GBSP36	Surface Preparation and Painting Req. for Weathering Steel	Nov 21, 1997	May 11, 2009
X	245	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
		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
X	246	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
X	247	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

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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2007, (hereinafter referred to as the Standard Specifications); the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways" and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids; and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of FAU 3570 (Jefferson Avenue), Section 00-00116-00-BR in the city of Naperville in DuPage County, and in case of conflict with any part, or parts, of said specifications, the said Special Provisions shall take precedence and shall govern.

Location of Project: This project consists of removal and replacement of the Jefferson Avenue Bridge over the west branch of DuPage River, removal and replacement of the pavement and approach slabs. The project begins at a station 5+43.04 (east of Willoway Drive) and ends at a station 14+48.29 (west of Parkway Drive). The total project length is 905 feet.

Description of Project: The work to be performed under this contract consists of construction of storm sewers and drainage structures, earth excavation, removal and replacement of combination curb and gutter, bridge removal and replacement, electrical power distribution duct-bank and related equipment, pavement removal and replacement, pavement marking and landscaping, erosion control and all incidental and collateral work necessary to complete the project as shown in plans and as described herein.

Closure Requirements

Bridge, road, and sidewalks shall not be closed to thru traffic prior to January 1, 2010.

Prior to January 1, 2010 daytime lane closure will be permitted for the bridge and road. One lane of the bridge and/or roadway must remain in service at all times, and traffic must be controlled by flaggers. Temporary daytime sidewalk closures will be allowed, but all sidewalks must be restored to travel by the end of each day.

Beginning January 1, 2010, the bridge, road and sidewalks may be fully closed to vehicular and pedestrian travel. The closure may extend for a period of no longer than 150 calendar days.

The roadway section between Parkway and Douglas shall not be closed except during active pavement reconstruction in this section.

Completion Date (Via Calendar Days) Plus Working Days

The contractor shall complete the new bridge, roadway and sidewalks, including finished pavement, and associated backfilling, lighting, pavement markings and signing work by a

completion date of August 27, 2010, or 150 calendar days after the full closure of the bridge whichever is earlier. An additional 15 working days will be allowed to complete landscaping, other final restoration items and punch list work.

Contract special provisions for "Failure to Complete Work on Time (Incentive/Disincentive)" shall apply to the completion dates.

Failure to Complete the Work on Time (Incentive/Disincentive)

Should the Contractor fail to complete the work on or before the completion dates as specified in the Special Provision for "Completion Date (Via Calendar Days) Plus Working Days" or within such extended time as may have been allowed by the City, the Contractor shall be liable to the City in the amount of \$2,500, not as a penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed with no maximum charge limit.

Should the Contractor complete the work on or before the completion dates as specified in the Special Provision for "Completion Date (Via Calendar Days) Plus Working Days" the Contractor shall be entitled to an incentive payment in the amount of \$2,500 (100% local cost participation, no federal cost participation) for each calendar day the work is completed in advance of the completion dates with a maximum payment limit of 10 calendar days.

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

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

Standard liquidated damages shall be charged for each working day in excess of the 15 allowed.

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 this work will be provided by the Contractor as required by the Engineer.

If items of work have not 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 in accordance with Article 109.04 of the Standard Specifications.

Existing Utilities

Existing utilities are shown on the plans according to information obtained from utility companies, municipalities and surveys. The city does not guarantee the accuracy or completeness of this information

Status of Utilities to be Adjusted

Effective: January 30, 1987

Revised: July 1, 1994

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

<u>Name of Utility</u>	<u>Type</u>	<u>Location</u>	<u>Estimated Dates for Start and Completion of Relocation or Adjustment</u>
City of Naperville	DPU Electric Conduits	Within the project Improvement	In conjunction with the project improvement
City of Naperville	Sanitary Sewers	Within the project Improvement	In conjunction with the project improvement
City of Naperville	Water	Within the project Improvement	In conjunction with the project improvement
SBC/Ameritech/ AT&T	Underground Cable	Within the project Improvement	In conjunction with the project improvement
Comcast	Underground Cable	Within the project	In conjunction with the

		Improvement	project improvement
ComEd	Underground Cable Aerial Cable	Within the project Improvement	In conjunction with the project improvement
Nicor	Gas Pipeline	Within the project Improvement	In conjunction with the project improvement
Wide Open West	Underground Cable	Within the project Improvement	In conjunction with the project improvement

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

DuPage County Stormwater Ordinance

The Contractor will be required to adhere to the requirements of the DuPage County Department of Development and Environmental Concerns (DEC) Stormwater and Flood Plain Ordinance. The City is the permittee and the contractor and subcontractor will be required to comply with the requirements of the permit which will include adherence to storm water permit requirement, minimizing disturbance within a floodplain, and temporary and permanent erosion control measures. The Contractor shall get the DEC and Kane DuPage Soil and Water Conservation concurrence on the means and methods for in-river work.

The Stormwater Management Permit has been approved by the County.

Work Restrictions

The construction staging plan has been established to minimize impacts to the residents and businesses during utility and roadway construction. At no time may electric service be stopped to any business or residence for more than two hours at a time or any four hours of a twenty-four hour day.

The Contractor must provide temporary and reasonable access for each commercial and residential entrance and have the driveway open to vehicular traffic except for short periods of time required for curb and gutter. The church driveway with the Little Shepherd Day School shall be constructed in stages such that it is always open and accessible.

The Contractor must store his supplies, materials, and unused equipment within a fenced-in area at a location approved by the Engineer. Equipment shall not be stored within 25 feet of existing trees. The Contractor may not leave equipment dormant within the public right-of-way for more

than three (3) working days. All costs of storage, fencing, and restoration for the Contractor's storage area shall not be paid for separately, but shall be included as part of MOBILIZATION.

Construction Operations

1. In order to minimize the effect of construction noise on the area surrounding the improvement, the Contractor and his subcontractor shall comply with the following requirements.

- a. All engines and engine-driven equipment used for hauling or construction shall be equipped with an adequate muffler in constant operation and properly maintained to prevent excessive or unusual noise.

Any machine or device or part thereof which is regulated by or becomes regulated by Federal or State of Illinois noise standards shall conform to those standards. Such equipment shall be operated as designated in (b) below.

- b. Construction operations shall be confined to daylight hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 5:00 p.m. on Saturday, unless authorized at the sole discretion of the City Engineer. No work is to be performed on Sunday or the holidays of New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving or Christmas Day. Also, the engines of equipment may not be started before 7:00 a.m.

If the Contractor requires additional time to complete a portion of the work on any given day or if he foresees the need to work extended hours for a number of days to comply with the construction schedule, he must receive the approval of the Engineer.

2. The Contractor shall take all precautions necessary to protect the general public and his workmen from hazardous locations that might occur within the limits of the improvement.

All trench openings and other construction openings extending below the pavement subgrade shall be fenced off with an adequately supported four-foot high snow fence around the entire opening at all times when actual construction is not in progress at the opening location. In addition, any opening left overnight will require lighted barricades and proper signing to adequately warn all motorists and pedestrians.

The duty of the Engineer is to inspect all work done and materials furnished and to suspend any work that is being improperly performed. This does not include review or approval of the adequacy of the Contractor's safety measures, methods and bracing of excavated trenches in, on or near the construction site.

3. It shall be the Contractor's responsibility to protect open cut trenches as may be required

by OSHA, Illinois Department of Labor, State or federal regulations and law, and as necessary to protect life, property, or the work.

4. The contractor shall schedule and conduct his operations so that the closure time of existing driveways along the route of the improvement is kept to a minimum. Driveway closures shall be coordinated and approved by the Engineer. All property owners and businesses shall be given a minimum of 48 hours written notice period to initial removal of their driveway. The Contractor shall make every effort to keep driveways open including temporary grading and placement of gravel.
5. The Contractor shall submit a critical path schedule which will show the required sequence of work coordinated with planned utility work and other projects in the area. The schedule shall be reviewed and approved by the Engineer prior to commencing work. Modifications to the schedule due to work of others will not result in an increase to the contract price.
6. The Contractor shall, where required by the Engineer provide immediate access to driveways and intersecting streets.

At no time will the Contractor allow broken material to remain on the street overnight.

The Contractor shall provide, to residents and motorists, advance notice of parking restrictions. This shall be accomplished with signs and/or barricades as directed by the Engineer.

The Contractor shall not close any street or private driveway without the consent of the Engineer and the proper notification of the affected property owner(s). Any street closed during working hours shall be reopened to traffic during non-working hours.

This work will not be paid for separately, but shall be considered incidental to the contract.

Trench Backfill

This item shall conform to Section 208 of the Standard Specifications, with the following modification:

Trench backfill shall be a well graded granular crushed limestone material equivalent to IDOT CA-6, per Section 1004 of the Standard Specifications. Compaction of trench backfill shall only be by mechanical means in lifts not exceeding 12 inches in thickness. Compaction shall be a minimum of 95% of the maximum laboratory density for CA-6.

Backfilling Storm Sewer Under Roadway

Effective: September 30, 1985

Revised: July 2, 1994

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

Cleaning Existing Drainage Structures

Effective: September 30, 1985 Revised: January 1, 2007

All existing storm sewers, pipe culverts, manholes, catch basins and inlets shall be considered as drainage structures insofar as the interpretation of this Special Provision is concerned. When specified for payment, the location of drainage structures to be cleaned will be shown on the plans.

All existing drainage structures which are to be adjusted or reconstructed shall be cleaned in accordance with Article 602.15 of the Standard Specifications. This work will be paid for in accordance with Article 602.16.

All other existing drainage structures which are specified to be cleaned on the plans will be cleaned in accordance with Article 602.15.

Basis of Payment. This work will be paid for at the contract unit price for each for DRAINAGE STRUCTURES TO BE CLEANED, and at the contract unit price per foot (meter) for STORM SEWERS TO BE CLEANED.

Traffic Control Plan

Effective: September 30, 1985 Revised: January 1, 2007

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

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

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

STANDARDS: 701701-06, 701801-04 and 701901-01

DETAILS: Typical Sections and Notes
Traffic Control and Protection for Side Roads, Intersections, and
Driveways
Detour Plan

SPECIAL Maintenance of Roadways

PROVISIONS: Traffic Control Deficiency Deduction
Traffic Control and Protection for Temporary Detour

Traffic Control and Protection for Temporary Detour

Effective: September 1, 1995 Revised: January 1, 2007

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans.

Basis of Payment. This work will be paid for at the contract unit price each for TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR.

Reclaimed Asphalt Pavement for Non-Porous Embankment and Backfill

Effective: April 1, 2001 Revised: January 1, 2007

Add the following sentence to Article 1004.05 (a) Description of the Standard Specifications for Road and Bridge Construction:

“Reclaimed Asphalt Pavement (RAP) may be used as aggregate in Non-porous Granular Embankment and Backfill. The Rap material shall be reclaimed asphalt pavement material resulting from the cold milling or crushing of an existing hot-mix bituminous concrete pavement structure, including shoulders. RAP containing contaminants such as earth, brick, concrete, sheet asphalt, sand, or other materials identified by the Department will be unacceptable until the contaminants are thoroughly removed.

Add the following sentence to Article 1004.05 (c)(2) of the Standards Specifications:

“One hundred percent of the RAP when used shall pass the 3 inch (75mm) sieve. The RAP shall be well graded from coarse to fine. RAP that is gap-graded or single-sized will not be accepted.”

Storm Sewer Adjacent to or Crossing Water Main

Effective: February 1, 1996 Revised: January 1, 2007

This work consists of constructing storm sewer adjacent to or crossing a water main, at the locations shown on the plans. The material and installation requirements shall be according to the latest edition of the “Standard Specifications for Water and Sewer Main Construction in Illinois”, and the applicable portions of Section 550 of the Standard Specifications; which may include concrete collars and encasing pipe with seals if required.

Pipe materials shall meet the requirements of Sections 40 and 41-2.01 of the “Standard Specifications for Water and Sewer Main Construction in Illinois”, except PVC pipe will not be allowed. Ductile-Iron pipe shall meet the minimum requirements for Thickness Class 50. Encasing of standard type storm sewer, according to the details for “Water and Sewer

Separation Requirements (Vertical Separation)” in the “STANDARD DRAWINGS” Division of the “Standard Specifications for Water and Sewer Main Construction in Illinois”, may be used for storm sewers crossing water mains.

Basis of Payment: This work will be paid according to Article 550.10 of the Standard Specifications, except the pay item shall be STORM SEWER (WATER MAIN REQUIREMENTS), of the diameter specified.

Proposed Storm Sewer Connection to Existing Manhole

Description: This work shall consist of connecting a proposed storm sewer to an existing manhole. The work shall be done in accordance with the applicable portions of Sections 502 and 550 of the Standard Specifications.

Construction: The Contractor shall carefully core into the existing structure at the line and grades as shown on the Contract Drawings. After the storm sewer is installed, the manhole shall be mortared with a non-shrink concrete grout.

Basis of Payment: The work shall be paid for at the contract unit price each for PROPOSED STORM SEWER CONNECTION TO EXISTING MANHOLE, which price shall be full compensation for all labor, equipment, and materials necessary to complete the work.

Manhole, Drop Type A1-1

This work shall consist of the furnishing and installation of Drop Type Manhole structures with specified frame and lid as shown on the Plans and as per Section 602 of the Standard Specifications and as directed by the Engineer.

All manhole structures having depths greater than 12” (rim to invert), shall be limited to Pre-Cast Reinforced Concrete Sections or cast-in-place concrete in accordance with Section 602 of the Standard Specifications.

This item of work is to include all castings, Frame and Lid, Type 1 (Highway Standard 604001), reduced size drop pipe, and concrete encasement.

Basis of Payment: This work will be paid for at the contract unit price per Each for DROP MANHOLES, TYPE A1-1, at the Diameter shown on the plans.

Aggregate Surface Course for Temporary Access

Effective: April 1, 2001

Revised: January 2, 2007

Revise Article 402.10 of the Standard Specifications to read:

“402.10 For Temporary Access. The contractor shall construct and maintain aggregate

surface course for temporary access to private entrances, commercial entrances and roads according to Article 402.07 and as directed by the Engineer.

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

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

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

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

Add the following to Article 402.12 of the Standard Specifications:

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

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

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

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

- (a) Upon construction of the temporary access, sixty percent of the contract unit price per each, of the type constructed, will be paid.

Subject to the approval of the Engineer for the adequate maintenance and removal of the temporary access, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary access.”

Stabilized Construction Entrance

Description:

This work consists of constructing a stabilized pad of coarse aggregate underlain with geotechnical fabric at the locations where construction traffic will be entering or leaving the work zone. Also included is the removal and satisfactory disposal of the stabilized construction entrance when no longer required. This work shall be performed in accordance with the applicable portions of Sections 202, 210, 1004 and 1080 of the Standard Specifications, the details in the plans and as directed by the Engineer.

Materials:

Aggregate shall consist of coarse aggregate gradations CA-1, CA-2, CA-3, or CA-4 meeting the requirements of Article 1004.04. Aggregate thickness shall be 9 inches to 10 inches as directed by the engineer. The minimum width shall be 12 ft as directed by the engineer.

Geotechnical fabric shall meet the requirements of Article 1080.02.

General:

Excess or unsuitable excavated materials shall be disposed of in accordance with Article 202.03

The coarse aggregate surface shall be compacted to the satisfaction of the Engineer.

Method of Measurement:

The stabilized construction entrance will be measured 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 STABILIZED CONSTRUCTION ENTRANCE, which price shall be payment in full for all excavation, except excavation in rock; removal and disposal of excavated materials; embankment; geotechnical fabric; furnishing, placing, compacting and disposing of coarse aggregate; and for all labor, tools and equipment necessary to construct the work as specified.

Temporary Information Signing:

Effective: November 13, 1996

Revised: January 2, 2007

Description.

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

Materials.

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

	<u>Item</u>	<u>Article/Section</u>
a.)	Sign Base (Notes 1 & 2)	1090
b.)	Sign Face (Note 3)	1091
c.)	Sign Legends	1092
d.)	Sign Supports	1093
e.)	Overlay Panels (Note 4)	1090.02

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

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

Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1106.01.

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

GENERAL CONSTRUCTION REQUIRMENTS

Installation.

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

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

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

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

Method Of Measurement.

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

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

Basis Of Payment.

This work shall be paid for at the contract unit price per square foot (square meter) for TEMPORARY INFORMATION SIGNING.

Rock Fill

This work shall consist of furnishing, transporting and placing rock fill for ground stabilization.

The material shall meet Quality Designation "B" as required in Article 1005.01 of the Standard Specifications for Road and Bridge Construction and may be shot rock or primary crusher run. It shall not contain objectionable quantities of dirt, sand, clay or rock fines.

The material shall be well graded with a maximum stone dimension of 8 inches (200 mm). No more than 35% shall have a dimension less than 2 inches (50 mm).

Rock fill will be measured for payment in cubic yards, in accordance with Article 311.08.

This work will be paid for at the contract unit price per cubic yard for ROCK FILL.

Bridge Approach Pavement (Special)

This work shall be completed in accordance with the applicable portions of Section 420 of the Standard Specifications.

All work and material required to construct bridge approach pavement as shown on the plans shall be included in this item. This includes, but is not limited to, reinforcing steel, bar detailing, earth excavation, subbase, concrete pad and bond breaker.

Basis of Payment

All work shall be paid for at the contract unit price per SQ. YD. for BRIDGE APPROACH PAVEMENT (SPECIAL).

Junction Chamber

This work shall consist of furnishing all labor, materials, tools and equipment necessary to design and construct the precast concrete junction chamber as shown on the plans or as directed by the Engineer and in accordance with the applicable portions of Sections 502, 504, 505, 508, 550 and 602 of the Standard Specifications and conforming to the lines, grades, details and dimensions shown on the plans and as directed by the Engineer.

Included in this work are all excavation, backfilling, dewatering, Class PC Concrete, reinforcement bars, structural steel, frames, lids, steps and all other incidental hardware and material as specified herein and detailed on the plans.

Excavation and backfilling shall be as specified for structures in accordance with the applicable portions of Section 602 of the Standard Specifications. All excavation shall be backfilled. No adjustments in the unit bid price shall be allowed to the Contractor for complying with this requirement. Manhole frame and lid shall be as shown on the plans and shall meet the requirements of Section 604 of the Standard Specifications.

Shop drawings, complete with all design, details and related data, for the precast concrete junction chamber, shall be submitted in accordance with the requirements of Article 504.04(a) of the Standard Specifications. Such submittal shall be prepared by an Illinois licensed Structural Engineer.

The concrete junction chamber shall be a precast, reinforced concrete unit of the size and shape as shown on the plans and as specified herein. The Contractor shall furnish and install the unit with openings in the sides to receive storm sewer pipes of the size, line and grade indicated on the plans. The Contractor shall saw cut the existing 78" storm sewer so that it is flush with the inside wall of the Precast Concrete Junction Chamber. The manhole frame shall be secured to the top of the junction chamber as shown on the plans. The Contractor shall design and detail the lifting devices.

The top mat of reinforcing bars/fabric in the top slab shall be epoxy coated. If the junction chamber is cast in sections, the sections shall be laid in accordance with the requirements of Article 602.07 of the Standard Specifications. The junction chamber shall be installed on a 3" thick sand cushion of FA1 or FA2 conforming to Article 1003.01 of the Standard Specifications.

The work shall include furnishing and installing a Type I Frame and Closed Lid on the top of the junction chamber as indicated on the plans and as directed by the Engineer. All work shall be in accordance with the applicable requirements of Section 505 of the Standard Specifications and as specified herein. The Type I Frame shall be secured to the top of the junction chamber using the details shown on the plan and as directed by the Engineer. Adhesive anchors, nuts, washers and all other hardware required for securing frame shall be stainless steel.

Basis of Payment. This work shall be paid for at the contract unit price each for JUNCTION CHAMBER, complete in place, which price shall be payment in full for furnishing all labor, materials, equipment and incidentals to complete this work as specified herein, including manhole frame and lid, steps, grout, mastic joint sealer and sand cushion. The cost of saw cutting the existing 78" storm sewer shall be included in the unit price for JUNCTION CHAMBER.

Adhesive Anchor

This work shall consist of furnishing all labor, materials, tools and equipment necessary to install the adhesive anchors at the Precast Concrete Junction Chamber as shown on the plans and as directed by the Engineer. This Special Provision does not cover the stainless steel expansion anchors required to secure the existing metal grating to the proposed CIP Reinforced Concrete End Section 78".

The adhesive anchoring system shall be the Hilti HVA anchoring system, consisting of the Hilti HVU adhesive capsule and the Hilti HAS anchor rod or approved equal.

Adhesive anchors shall consist of an all-thread anchor rod, nut, all necessary washers and adhesive capsule.

Anchor Rod – Shall be provided with 45 degree chisel point to provide proper mixing of the adhesive components. Anchor rod shall be manufactured to meet the following requirements: AISI 304 or AISI 316 stainless steel meeting the mechanical requirements of ASTM F-593 (Condition CW).

Special length HAS Rod materials may vary from standard product, but meet or exceed the minimum f_u mechanical properties of standard HAS Rods.

Nuts and Washers – Shall be furnished to meet the requirements of the above anchor rod specifications.

Adhesive Capsule – Shall consist of a dual chamber foil capsule. The resin material shall be vinyl urethane methacrylate.

Steel Insert – The internally threaded insert shall be manufactured with a 45 degree (from central axis) chisel-pointed end. The insert shall be manufactured from carbon steel or stainless steel material which meets minimum ultimate tensile strengths of 71 and 74 ksi respectively.

Installation – Adhesive anchors to be installed in holes drilled using the specified diameter of Hilti carbide-tipped drill bit or matched tolerance Hilti DDB core bit. Anchors shall be installed in strict accordance with the manufacturer's installation procedures. Anchors shall not be disturbed until cure time has elapsed.

Basis of Payment: This work will not be paid for separately, but shall be included in the pay item JUNCTION CHAMBER.

SANITARY SEWER SPECIAL PROVISIONS

Sanitary Sewers

301 GENERAL

The standards and requirements found in this article are for the materials and construction of sanitary sewers within the City of Naperville, Illinois.

301.1 SPECIFICATIONS

These specifications cover pipe for sanitary sewers and service connections, sewer fittings, manholes and all appurtenances normally used for sanitary sewer collection systems. Special considerations will be covered in the detailed plans and special provisions covering the proposed construction. Sanitary sewers shall be installed in accordance with the "Standard Specifications for Water and Sewer Main Construction in Illinois", latest edition, and applicable ordinances of the City of Naperville, except as modified herein.

301.2 REGULATIONS

Additional rules and regulations governing the construction of sanitary sewers in the City of Naperville are:

- a) The Sewer Permit Ordinance
- b) The Sewage and Wastewater Control Ordinance
- c) The restrictions, policies, and instructions that may be adopted or issued by the City of Naperville
- d) The Illinois Pollution Control Board Regulations
- e) The Environmental Protection Act

301.3 START OF CONSTRUCTION

Sanitary sewer construction shall not start before acquiring an IEPA Construction permit number and an Illinois Pollution Control Board permit number.

301.4 SANITARY SEWERS

All sanitary sewage of domestic and other water borne wastes shall be collected and conveyed in a sanitary sewer pipe system to a point of discharge into an existing sanitary sewer system, City of Naperville interceptor, or sewage treatment plant. No sanitary sewage shall be allowed to enter any storm sewer system or discharge onto the ground or into receiving streams without first being treated in accordance with city, county, state and federal regulations.

302 MATERIALS

All sanitary sewer pipe materials shall conform to the latest applicable ANSI, ASTM, AWWA, AASHTO, or other nationally accepted standards. Only the following sanitary sewer pipe and joint materials are approved for use in the City of Naperville, Illinois:

- a) Class 50 ductile iron pipe conforming to ANSI A 21.51 (AWWA C151-75) with joints conforming to ANSI 21-11 (AWWA C-111).
- b) Polyvinyl chloride (PVC) pipe conforming to ASTM D-2241 (SDR 26) with joints conforming to ASTM D-3139.
- c) High Density Polyethylene (HDPE) Pressure Pipe, AWWA C906, Pressure Class PC160, DR11, PE 3408. Fittings will meet AWWA C906, molded and joints shall be heat fusion meeting ASTM D-3261. Manufacture shall be Driscopipe or Approved Equal. Joints between pipe sections shall be smooth on the inside and internal projection beads shall not be greater than 3/16 inch. The tensile strength at the yield of the butt-fusion joints shall not be less than the pipe. A specimen of the pipe cut across the butt-fusion joint shall be tested in accordance with ASTM D-638. All butt-fusion joints shall be controlled using a McElroy Datalogger (or equivalent computer) which monitors and stores from the butt-fusion operation.

Joints connecting dissimilar pipe materials shall be made with sewer clamp couplings, Cascade CSS, Romac LSS, or approved equal. When available, a standard joint with a transition gasket may be used. The name of the manufacturer, class, and date of issue shall be clearly identified on all sections of pipe. The contractor shall also submit bills of lading, or other quality assurance documentation when requested by the City Engineer.

303 SEWER AND WATER MAIN SEPARATION

Sanitary sewers and services that are laid in the vicinity of pipe lines designated to carry potable water shall meet the conditions set forth in Section 503.

304 CONSTRUCTION REQUIREMENTS

304.1 DEPTH OF PIPE COVER

All pipe shall be laid to a minimum depth of 7 feet (2.1 m) measured from the proposed ground surface to the top of the pipe, unless specifically allowed otherwise in special circumstances by the City Engineer. If allowed, sanitary sewer and services with ground cover less than 4 feet (1.2 m) or more than 25 feet (7.6 m) must be constructed of ductile iron class 50 pipe. All sanitary sewers and services with less than 4 feet (1.2 m) of cover shall have insulation.

304.2 PIPE BEDDING

Granular pipe bedding, haunching and initial backfill material or granular cradle shall be required on all sanitary sewers installed in the City of Naperville. Granular pipe

bedding shall be a minimum of 4 inches (100 mm) in earth excavation and a minimum of 6 inches (150 mm) in rock excavation. The trench shall be backfilled with granular material to a minimum of 6 inches (150 mm) over the top of the pipe per Naperville Standard Detail SAN 5. Bedding, haunching, initial and final backfill material shall conform to IDOT gradation CA-11.

304.3 SELECTED GRANULAR BACKFILL

The backfill for trenches and excavation made in existing or under proposed pavements where the inner edge of the trench is within 2 feet (600 mm) of the edge of the pavement, curb, gutter, curb and gutter, or sidewalk, shall be made with compacted selected granular material conforming to I.D.O.T. gradation CA-6. Selected granular backfill shall be placed in uniform layers not exceeding 6 inches (150 mm) (loose measure) and compacted with mechanical equipment to 95% of the standard proctor density in accordance with the applicable AASHTO or ASTM requirements.

304.4 HANDLING OF PIPE

Sanitary sewer pipe shall be handled in a manner that will prevent damage. Damaged or defective material on the job site shall be rejected and replaced to the satisfaction of the City Engineer. Methods of construction conducive to the damage of sewer pipe shall be corrected when called to the attention of the contractor. All pipe and fittings shall be examined by the contractor above grade before placement in the trench.

304.5 LAYING OF PIPE

Sanitary sewer pipe shall be laid true to line and grade as set forth in Section 31 paragraph 31-1.02 of the "Standard Specifications for Water and Sewer Main Construction in Illinois." Dirt and other foreign material shall be prevented from entering the pipe or pipe joint during handling or laying operations.

Any pipe or fitting that has been installed with dirt or foreign material in it shall be cleaned and reinspected. At times when pipe laying is not in progress, and at the end of each working day, the open end of the pipe shall be closed with a water tight plug to ensure absolute cleanliness inside the pipe. The City Engineer may request mechanical cleaning (jet flushing) and/or televising if necessary to ensure clean, acceptable pipes, at the contractor's expense.

304.6 LAYING OF PIPE ON CURVES

The curvature of sanitary sewers is allowed for sewers 8 inches (200 mm) to 12 inches (300 mm) in diameter. Alignments must follow the general alignment of streets. Only a simple curve design is acceptable. The minimum allowable radius of curvature is 300 feet (91.44 m). Compression type pipe joints are required and manholes are required at the beginning and end of all curves. Maximum joint

deflection shall not exceed the manufacturer's recommendations.

304.7 INSTALLING PIPE THROUGH CASINGS

This work shall be in conformance with Section 20-2.19 of the Standard Specifications for Water and Sewer Main Construction in Illinois, except as modified herein. Encasements for pipes under highways or railroads shall conform to the requirements of the City of Naperville, or the owner of the highway or railroad. Runners or cradles shall be used to support the pipe in the casing. A minimum of two supports shall be used per joint of pipe for lengths up to 12.5 feet (3.8 m), and a minimum of three supports shall be used per joint for lengths greater than 12.5 feet (3.8 m). The annular space shall be grouted full, and provisions shall be made so that no voids are left.

305 SANITARY SEWER MANHOLES

Manholes for sanitary sewers shall have a minimum inside diameter of 48 inches (1.22 m) and shall be constructed of precast concrete units in accordance with ASTM C 478 and Section 32 of the "Standard Specifications for Water and Sewer Main Construction in Illinois," and shall follow the City of Naperville sanitary sewer standards. Inverts of similar size pipe are to match other inverts. Where a smaller pipe intersects a larger pipe, the 0.8 depth point of both pipes shall be at the same elevation, unless otherwise directed by the City Engineer. This is also to be done when tapping into an existing manhole.

305.1 MANHOLE LOCATION

Manholes shall be located at the junction of two sanitary sewer pipes or at any change in grade, alignment or size of pipe. The maximum spacing of manholes shall be 500 feet (152 m) for sanitary sewers.

305.2 CONSTRUCTION

Sanitary manholes shall be precast concrete constructed in accordance with ASTM C-478 and shall be watertight. All visible leaks shall be sealed in a manner acceptable to the City Engineer. Inverts shall be made to conform accurately to the sewer grades with smooth, well rounded junctions and transitions satisfactory to the City Engineer. If the invert is to be poured in place, the sanitary sewer pipe shall be extended through the manhole, the concrete poured and formed, and the pipe then sawed out through the manhole. The completed manhole shall be rigid, true to dimensions and watertight. Lifting holes shall not be allowed.

Pipe connections to manholes shall be made as follows:

- a) A flexible pipe-to-manhole connector shall be used for the connection of the

sanitary sewer to precast concrete manholes. The connector shall meet ASTM C-923 and ASTM A-167, and be constructed of EPDM rubber with 304 or 316 series stainless steel connectors (KOR-N-SEAL or approved equal).

- b) Where a connection is made to an existing manhole, the manhole shall be cored.
- c) All manhole connections should be made using proper water stops. Water stops shall be installed in accordance with manufacturer's recommendations. Direct bonding between PVC pipe and concrete manhole is not allowed.

305.3 MANHOLE APPURTENANCES

The following items shall apply to all manhole structures:

- a) Manholes shall be furnished with a self-sealing frame and solid cover (Neenah Foundry R-1772CVH, East Jordan Iron Works 1022-3, or equal approved by the City Engineer) with the word "Sanitary" imprinted on the cover in raised letters (see Standard Detail SAN 3). Frames and lids shall meet or exceed AASHTO H-20 loading specifications.
- b) Both the manhole frame and cover shall have machined horizontal and vertical bearing surfaces. Inverted manhole frames are not allowed.
- c) Pick holes shall not create openings in the manhole cover.
- d) Bolt-down frames and covers shall be Neenah Foundry R-1916-F1, East Jordan Iron Works 1040 ZPT or equal approved by the City Engineer. Frames are to be bolted to cone. Bolt-down frames shall be used where indicated on the plans.
- e) Manhole frames shall be adjusted to proper grade using reinforced, precast concrete rings. Brick or concrete blocks will not be allowed.
- f) All manhole frames and adjusting rings shall be securely sealed to the cone section or top barrel section of the manhole using resilient, flexible, non-hardening, preformed bituminous mastic material, Conseal 102 B or approved equal. The mastic shall be applied in such a manner that no surface water or ground water inflow can enter the manhole through gaps between the top barrel section or cone section and the first adjusting ring, between adjusting rings, or between the last adjusting ring and the manhole frame. Up to 12 inches (300 mm) of adjusting rings may be installed on a given manhole. No more than one 2-inch (50 mm) adjusting ring, and no more than two adjusting rings in total shall be used.
- g) A continuous layer of non-hardening, preformed bituminous mastic material, Conseal 102 B or approved equal shall be applied to each manhole barrel

cone and top section to provide a watertight seal.

- h) Manhole steps on maximum 16 inch (400 mm) center shall be furnished with each manhole, securely anchored in place, true to vertical alignment, in accordance with the Naperville Standard Details. Steps shall be copolymer polypropylene reinforced with ½ inch (13 mm) ASTM A615 Grade 60 steel reinforcement, meeting or exceeding ASTM C 478 and OSHA standards.
- i) Rubber boots/seals must be used where pipes enter manholes. The internal connection shall be dressed up with non-shrink hydraulic cement.
- j) Hydraulic cement, mortar, and concrete must be of the strength and watertightness quality as specified in the ASTM standards.

305.4 DROP ASSEMBLIES

Drop manhole assemblies shall be provided at the junction of sanitary sewers where the difference in grade is in excess of 2 feet (610 mm). The drop assembly shall follow Naperville Standards with filleted inverts. Drops are to be made outside of the structure unless otherwise approved by the Naperville Department of Public Utilities.

305.5 INSPECTION OF MANHOLES

All manholes shall be thoroughly cleaned of dirt and debris and all visible leakage eliminated before final inspection and acceptance.

305.6 VACUUM TESTING OF SANITARY MANHOLES

All manholes shall be tested for leakage by vacuum testing. A vacuum of 10" (254 mm) Hg shall be placed on the manhole and the time shall be measured for the vacuum to drop to 9" (229 mm) Hg. The vacuum shall not drop below 9" (229 mm) Hg for the following time periods for each size of manhole:

- a) 48-inch diameter - 60 seconds
- b) 60-inch diameter - 75 seconds
- c) 72-inch diameter - 90 seconds
- d) 84-inch diameter - 105 seconds

Any manholes that fail the test shall be sealed and re-tested until acceptable. The testing shall be done prior to backfilling so that any leaks can be found and fixed externally. The manhole frame and adjusting rings shall be in place when testing.

306 TESTING AND ACCEPTANCE OF SANITARY SEWERS

All sanitary sewers 21 inches (533 mm) and smaller, including service lines, shall pass a low pressure air test before acceptance. In addition, the City may, at their discretion, require an exfiltration test as described in section 307.2 prior to final acceptance. Sanitary sewers 24 inches (610 mm) and larger shall pass an exfiltration test described herein and be subject to a physical inspection by the City. In addition to the above, manholes are subject to physical inspection.

306.1 LOW PRESSURE AIR TEST PROCEDURES AND REQUIREMENTS

The procedure for low pressure air testing shall follow that set forth in section 31, paragraph 1.11B (3) of the Standard Specifications for Water and Sewer Construction in Illinois. All plugs including those in sanitary services must be carefully braced to prevent leakage and blowout. The line being tested shall be deemed acceptable when the time taken for the one pound (7 kPa) pressure drop (gauge) is not less than that shown in Table 1.

306.2 TEST RESULTS

If the sanitary sewer installation fails to meet the test requirements specified, the contractor shall determine the cause or causes of the defect and shall, at his own expense, repair or replace all materials and workmanship in accordance with the applicable construction requirements and standards to yield acceptable test results.

307 UTILITY IDENTIFICATION

A wood stake (4 inch by 4 inch by 6-foot [100 mm by 100 mm by 1.83 m]) stake with not less than the top 2 feet (610 mm) painted green shall be installed next to each sanitary sewer manhole, clean-out, and at the end of each sewer stub (termination at the end of the line). The 4" x 4" x 6' (100 mm x 100 mm x 1.83 m) stake shall be maintained in a plumb position until City acceptance of the utility structures.

When newly poured curbs are installed the contractor shall use a City approved stamp to indent the wet concrete with an "S" to identify the location of each sanitary manhole and sewer stub. The letter "S" shall be indented at the top of the curb one and one-half (1-1/2) inches (38 mm) to two (2) inches (50 mm) in height and width at a depth of three-eighths (3/8) inches (9 mm).

If the developer and/or the contractor fail to indent the curbs as outlined above, the City will then require that identification medallions or other symbols as approved by the City Engineer be affixed to the curb.

**TABLE 1
AIR TEST TABLE**

Based on Equations from ASTM C 828 (For Ductile Iron Pipe and Concrete Pipe Only. See Section 310 for PVC Pipe)

SPECIFICATION TIME (min:sec) REQUIRED FOR PRESSURE DROP FROM 3.5 To 2.5 PSIG (24 kPag - 17 kPag) WHEN TESTING ONE PIPE DIAMETER ONLY

Length, feet (meters)	Pipe Diameter, inches (millimeters)								
	4	6	8	10	12	15	18	21	24
	(100)	(150)	(200)	(250)	(300)	(380)	(450)	(525)	(600)
25 (7.62)	0:04	0:10	0:18	0:28	0:40	1:02	1:29	2:01	2:38
50 (15.24)	0:09	0:20	0:35	0:55	1:19	2:04	2:58	4:03	5:17
75 (22.87)	0:13	0:30	0:53	1:23	1:59	3:06	4:27	6:04	7:55
100 (30.5)	0:18	0:40	1:10	1:50	2:38	4:08	5:56	8:05	10:34
125 (38.1)	0:22	0:50	1:28	2:18	3:18	5:09	7:26	9:55	11:20
Length, feet (meters)	Pipe Diameter, inches (millimeters)								
	4	6	8	10	12	15	18	21	24
	(100)	(150)	(200)	(250)	(300)	(380)	(450)	(525)	(600)
150 (45.7)	0:26	0:59	1:46	2:45	3:58	6:11	8:30		
175 (53.35)	0:31	1:09	2:03	3:13	4:37	7:05			
200 (61)	0:35	1:19	2:21	3:40	5:17				12:06
225 (68.6)	0:40	1:29	2:38	4:08	5:40			10:25	13:36
250 (76.2)	0:44	1:39	2:56	4:35			8:31	11:35	15:07
275 (83.84)	0:48	1:49	3:14	4:43			9:21	12:44	16:38
300 (91.5)	0:53	1:59	3:31				10:12	13:53	18:09
350 (106.7)	1:02	2:19	3:47			8:16	11:54	16:12	21:10
400 (122.0)	1:10	2:38			6:03	9:27	13:36	18:31	24:12
450 (137.2)	1:19	2:50			6:48	10:38	15:19	20:50	27:13
500 (152.5)	1:28			5:14	7:34	11:49	17:01	23:09	30:14

308 PVC PIPE INSTALLATION SPECIFICATIONS

308.1 SCOPE

This specification includes requirements for trench excavation, pipe embedment, joining and installing pipe and accessories, and backfill placement. This specification is also appropriate for PVC pipe complying with ASTM D2241 (6"-16") (150 mm - 405 mm).

PVC pipe cannot be used in Class V soils (i.e. organic silt, organic clay and peat) as defined according to the Unified Soil Classification System in ASTM D2487. Solvent cement joints will not be allowed in the City of Naperville.

308.2 PIPING MATERIALS

308.2.1 RESPONSIBILITY FOR MATERIALS

The contractor shall be responsible for the acceptability and storage of all materials furnished by him and shall assume responsibility for the replacement of all such material found damaged in shipping or on job site or defective in manufacture. This shall include the furnishing of all material and labor required for the replacement of installed material discovered to be defective prior to the final acceptance of the work.

308.2.2 STORAGE OF PIPING MATERIALS

The interior, as well as all sealing surfaces of all pipe, fittings, and other accessories shall be kept free from dirt and foreign matter. Store pipe bundles on flat surfaces with uniform support. Pipe stored outside and exposed to prolonged periods of sunlight (two years or longer) should be covered with canvas or other opaque material. Clear plastic sheets shall not be used. Air circulation shall be provided under covering. Keep gaskets away from oil, grease, electric motors (which produce ozone), excessive heat and direct rays of the sun. Consult the manufacturer for specific storage recommendations.

308.2.3 HANDLING OF PIPING MATERIALS

Piping materials shall be unloaded, hauled and distributed at the site of the project by the contractor. Materials shall at all times be handled properly to prevent damage in accordance with manufacturer's recommendations. Pipe and fittings shall not be thrown, dropped, or dragged.

308.2.4 PIPE

Pipe shall be clearly marked as follows at intervals of 5' (1.5 m) or less:

- a) Manufacture's name or trademark and code
- b) Nominal pipe size
- c) The PVC cell classification, for example 12454-B
- d) The legend "Type IPS SDR-26 PVC 1120 Sewer Pipe"
- e) This designation "Specification D-2241"

NOTE: PVC Pipe shall be SDR 26. Higher SDR numbers will only be allowed with the approval of the City Engineer.

308.2.5 FITTINGS

Fittings shall be clearly marked as follows:

- a) Manufacturer's name or trademark
- b) Nominal size
- c) The material designation PVC or IPS (iron pipe size), and this designation "Specification D2241"

NOTE: PVC Fittings shall be SDR 26. Higher SDR numbers will only be allowed with the approval of the City Engineer.

308.3 TRENCH CONSTRUCTION

308.3.1 GENERAL

Trench construction for PVC pipe shall be in accordance with Section 304 of these specifications, and in accordance with Sections 20 and 31 of the Standard Specifications for Water and Sewer Main Construction in Illinois, except as modified herein.

308.3.2 WIDE TRENCH

Wide trenches are classified as trenches whose width at the top of the pipe is greater than 2 1/2 pipe diameters on each side of the pipe or a total of 6 pipe diameters. Although there is no width of trench beyond which the load on a flexible pipe exceeds the prism load, accepted installation practices usually dictate narrow trench construction. In isolated circumstances it may be more cost effective to use wide trench construction, i.e., in areas where narrow trench walls cannot be maintained. If trench width at the top of a small diameter pipe (4"-10" [100 mm - 250mm] diameter) must exceed 6 pipe diameters, the embedment up to the pipe spring line should be compacted to a point approximately 2 1/2 pipe diameters from each side of the pipe. For large diameter PVC pipe (12"-48" diameter) (300 mm - 1.22 m) installed in wide trenches, the embedment up to the pipe spring line should be compacted to a point at least one pipe diameter or 2 ft (600 mm) from side of the pipe, whichever is greater.

308.3.3 ROCK SUB-GRADE

Ledge rock, hard pan, cobbles, boulders or stones larger than 1 1/2 inches (40 mm) shall be removed from the trench bottom to permit a minimum bedding thickness of 4

inches (100 mm).

308.3.4 BEDDING

Bedding, or other than concrete embedment, shall consist of gravel, crushed gravel, or crushed stone 1/4" (6-25 mm) in size. As a minimum, the material shall conform to the requirements of Article 1004.01 of the "Standard Specifications for Road and Bridge Construction", prepared by the Illinois Department of Transportation. The gradation shall conform to gradation CA-11 of the Standard Specifications. The pipe shall be laid so that it will be uniformly supported and the entire length of the pipe barrel will have full bearing. No blocking of any kind shall be used to adjust the pipe to grade except when used with embedment concrete. Bedding shall be required for all sewer construction, and shall be of a thickness equal to 1/4 of the outside diameter of the sewer pipe with a maximum thickness of eight inches (200 mm), but shall not be less than four inches (100 mm). Where unsuitable material is encountered at the grade established, all such unsuitable soil shall be removed under the pipe and for the width of the trench, and shall be replaced with well compacted bedding material. The size range and resulting high voids ratio of bedding material make it suitable for use to dewater trenches during pipe installation. This permeable characteristic dictates that its use be limited to locations where pipe support will not be lost by migration of fine grained natural material from the trench walls and bottom or migration of other materials into the bedding material. When such migration is possible, the material's minimum size range should be reduced to finer than 1/4 inch (6 mm) and the gradation properly designed to limit the size of the voids.

Bedding materials shall be placed to provide uniform and adequate longitudinal support under the pipe. Bell holes at each joint shall be provided to permit the joint to be assembled properly while maintaining uniform pipe support. When the joint has been made, the void under the bell will be filled with bedding or haunching material.

308.3.5 HAUNCHING

The most important factor affecting pipe performance and deflection is the haunching material and its density. Place and consolidate the material under the pipe haunch to provide adequate side support to the pipe while avoiding both vertical and lateral displacement of the pipe from proper alignment. The same coarse materials as used for initial backfill shall also be used for haunching. Place haunching up to the pipe spring line.

308.3.6 INITIAL BACKFILL

Initial backfill begins above the spring line of the pipe and extends to a point 6" (150 mm) above the top of the pipe and shall be CA-11 carefully placed so as to completely fill the space around the pipe, in 8" (200 mm) layers, loose measurements, and compacted to the satisfaction of the City Engineer.

308.4 LAYING AND JOINING PIPE AND FITTINGS

308.4.1 GENERAL

Laying and joining PVC pipe and fittings shall be in accordance with Section 31 of the Standard Specifications for Water and Sewer Main Construction in Illinois, except as modified herein.

308.4.2 CUTTING AND BEVELING PIPE

For shorter than standard pipe lengths, field cuts may be made with either hand or mechanical saws or plastic pipe cutters. Ends shall be cut square and perpendicular to the pipe axis. Spigots shall have burrs removed and ends smoothly beveled by a mechanical bevel or by hand with a rasp or file. Field spigots shall be stop-marked with felt tip marker or wax crayon for the proper length of assembly insertion. The angle and depth of field bevels and lengths to stop-marks shall be comparable to factory pipe spigots.

308.4.3 ASSEMBLY OF JOINTS

Assemble all joints in accordance with recommendations of the manufacturer. If a lubricant is required to facilitate assembly it shall have no detrimental effect on the gasket or on the pipe when subjected to prolonged exposure. Proper jointing may be verified by rotation of the spigot by hand or with a strap wrench. If unusual joining resistance is encountered or if the insertion mark does not reach the flush position, disassemble the joint, inspect for damage, re-clean the joint components and repeat the assembly steps. Note that fitting bells may permit less insertion depth than pipe bells (NOTE: When mechanical equipment is used to assemble joints, care should be taken to prevent over insertion.)

308.4.4 BRANCH FITTINGS

Fittings for service branches in new construction shall be molded with all gasketed connections. Taps into existing lines shall use a gasketed fitting in conjunction with a repair sleeve coupling or a gasketed saddle wye or tee with all stainless steel clamps. When connecting to an existing sewer main by means other than an existing wye or tee, one of the following methods shall be used:

- a) Circular saw-cut of the sewer main by proper tools ("Shewer-Tap" machine or similar) and proper installation of hub-wye saddle or hub-tee saddle.
- b) With pipe cutter, neatly and accurately cut out desired length of pipe for insertion of proper fitting, using "Band-Seal" or similar couplings to hold it firmly in place.

"Band-Seal" or similar flexible-type couplings shall be used in the connection of sewer pipe of dissimilar materials. Typical couplings include Indiana Seal 102-66, Fernco 1002-66 or equal. Some clay pipe may require slightly larger couplings, i.e. Indiana Seal 106 or Fernco 1006. A typical connection would involve a PVC "T" fitting, another 1' (305 mm) (or more) extension of PVC pipe, depending on depth of cover, the coupling and the clay pipe. The contractor shall provide details of direct connections to City interceptors and show construction procedure for protecting City structures. Clay/plastic pipe connections must be watertight. Holes for wye saddles shall be laid out with a template and shall be de-burred and carefully beveled where required to provide a smooth hole shaped to conform to the fitting. The contractor will be permitted to use fittings which include factory molded saddles and tees with alignment rings, and factory molded wyes.

308.4.5 BUILDING SERVICES

When main line bedding, haunching, initial and final backfill must be disturbed to install fittings and service lines, the contractor is directly responsible to ensure that the bedding, haunching, initial and final backfill with appropriate compaction are restored properly to eliminate the possibility of deflection or movement causing future pipe failure.

308.4.6 PIPE CAPS AND PLUGS

All caps and plugs shall be braced, staked, anchored, wired or otherwise secured to the pipe to prevent leakage under the maximum anticipated thrust from internal abnormal operating conditions or test pressures from water or air.

309 PVC PIPE TESTING SPECIFICATIONS

309.1 GENERAL

All projects shall be tested upon completion of installation. The City Engineer will designate the locations of tests and extent of the system to be tested, and extent of recording test results. Equipment for performing tests and making measurements shall be furnished by the contractor. Sections of sewer which fail to pass the tests shall have defects located and repaired or replaced and be retested until within the specified allowance.

309.2 CLEANING

Prior to other tests all sewer lines shall be cleaned and inspected for major defects. Pre-cleaning by appropriately sized sewer cleaning ball or by high velocity jet or other method shall be performed. Any debris, grit, etc. shall be removed and shall not be allowed to enter the existing system.

309.3 VISUAL TEST

The City of Naperville may require that sewer lines be inspected visually to verify accuracy of alignment and freedom from debris and obstructions. The percentage of sewer lines inspected will be designated by the City Engineer. The full diameter of the pipe for straight alignments shall be visible when viewed between consecutive manholes. The method of test shall be either photography or closed circuit television, unless a specific method is required by the special provisions and approved by the City Engineer.

309.4 DEFLECTION TESTING

Unless specified otherwise, the maximum allowable pipe deflection (reduction in vertical inside diameter) shall be 5%. A mandrel test is required by the City of Naperville.

309.5 LEAKAGE TEST

Methods of test which are suitable for various conditions are low pressure air exfiltration or water exfiltration. Explicit instructions for the following methods of test will be supplied by the project design engineer. Plugs, caps, and branch connections must be secured against blow-off during leakage test.

309.6 MANDREL TESTING

All sewers constructed under permits issued by the City of Naperville shall be subject to inspection, testing and approval by the City to insure compliance with the applicable requirements. All testing shall be made, or caused to be made, by the Permittee or Co-Permittee at no cost to the City and in the presence of the City Engineer.

309.6.1 TEST SECTIONS

The City Engineer shall randomly select portions of the project to be deflection tested. Such portions shall consist of the manhole intervals for the initial sewer construction up to 1,200 linear feet (365 m) and not less than 20% of the remainder of the sewer project. The City of Naperville reserves the right to test more or less pipe if considered appropriate by the City Engineer.

309.6.2 ALLOWABLE DEFLECTION

The 5% deflection test for pipe sizes 6 inches (150 mm) to 18 inches (457 mm) in diameter is to be run using a nine-arm mandrel having a diameter equal to 95% of the inside diameter of the pipe as established in ASTM D-2241-96b. The following table of mandrel sizes was developed using the equations outlined in Section 31-1.11C of the Standard Specifications for Water and Sewer Main Construction in Illinois:

TABLE 2
REQUIRED MANDREL SIZE FOR SDR 26 PIPE
 (ASTM 2241)

Nominal Pipe Size, Inches (mm)		Required Mandrel Size, Inches (mm)	
6	(152)	5.73	(145)
8	(203)	7.45	(189)
10	(254)	9.30	(236)
12	(305)	11.04	(280)
16	(406)	13.80	(350)
18	(457)	16.13	(410)

309.6.3 TIME OF TESTING

The individual lines to be tested shall be tested no sooner than 30 days after they have been installed by the contractor. During the first year of implementation, additional testing may be performed by the City of Naperville.

309.6.4 SEQUENCE OF TESTING

Wherever possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines.

309.6.5 TESTING OF ENTIRE PROJECT

In the event that the deflection exceeds the 5% limit in 10% or more of the manhole intervals tested, the total sewer project shall be tested.

309.6.6 RETEST OF FAILED SECTIONS

Where deflection is found to be in excess of 5% of the base inside diameter, the contractor shall excavate to the point of excess deflection and carefully compact around the point where excess deflection was found. The line shall then be retested for deflection. However, if the deflected pipe fails to return to the original size (inside diameter) after the initial testing, the affected segment shall be replaced.

309.7 AIR TESTING

309.7.1 AIR TESTING SAFETY

The contractor is required to follow OSHA rules for trench safety and confined space requirements.

309.7.2 PLUG RESTRAINT

All plugs shall be installed and braced in such a way that blowouts are prevented. Every plug shall be positively braced against the manhole walls, and no one shall be allowed in the manhole adjoining a line being tested so long as pressure is maintained in the line.

309.7.3 RELIEF VALVE

All pressurizing equipment used for low-pressure air testing shall include a regulator or relief valve set no higher than 9 psig (62 kPag) to avoid over-pressurizing and displacing temporary or permanent plugs. As an added safety precaution pressure in the test section should be continuously monitored to make certain that it does not at any time exceed 9 psig (62 kPag). (It may be necessary to apply higher pressure at the control panel to overcome friction in the air supply hose during pressurization.)

309.7.4 PLUG DESIGN

Either mechanical or pneumatic plugs may be used. All plugs shall be designed to resist internal testing pressures without the aid of external bracing or blocking. However, the contractor shall internally restrain or externally brace the plugs to the manhole wall as an added safety precaution throughout the test.

309.7.5 SINGULAR CONTROL PANEL

To facilitate test verification by the City Engineer, all air used shall pass through a single, above ground control panel.

309.7.6 EQUIPMENT CONTROLS

The above ground air control equipment shall include a shut-off valve, pressure regulating valve, pressure relief valve, input pressure gauge, and a continuous monitoring pressure gauge having a pressure range from 0 to at least 10 psi (69 kPa). The continuous monitoring gauge shall be no less than 4 inches (100 mm) in diameter with minimum divisions of 0.10 psi (0.5 kPa) and an accuracy of 0.04 psi (0.3 kPa).

309.7.7 SEPARATE HOSES

Two separate hoses shall be used to: (1) connect the control panel to the sealed line for inducing lowpressure air, and (2) a separate hose connection for constant monitoring of air pressure build-up in the line. This requirement greatly diminishes any chance for over-pressurizing the line.

309.7.8 PNEUMATIC PLUGS

If pneumatic plugs are utilized, a separate hose shall also be required to inflate the pneumatic plugs from the above ground control panel.

309.7.9 LINE PREPARATION - LATERALS, STUBS AND FITTINGS

During sewer construction, all service laterals, stubs, and fittings into the sewer test section shall be properly capped or plugged so as not to allow for air loss that could cause an erroneous air test result. It may be necessary and is always advisable to restrain gasketed caps, plugs, or short pipe lengths with bracing stakes, clamps and tie-rods, or wire harnesses over the pipe bells.

309.7.10 PLUG INSTALLATION AND TESTING

After a manhole to manhole reach of pipe has been back-filled to final grade, prepared for testing and the specified waiting period has elapsed, the plugs shall be placed in the line at each manhole and secured.

It is advisable to seal test all plugs before use. Seal testing may be accomplished by laying one length of pipe on the ground and sealing it at both ends with the plugs to be checked. The sealed pipe should be pressurized to 9 psig (62 kPa). The plugs shall hold against this pressure without bracing and without any movement of the plugs out of the pipe. No persons shall be allowed in the alignment of the pipe during plug testing.

It is required to plug the upstream end of the line first to prevent any upstream water from collecting in the test line. This is particularly important in high ground water situations.

When plugs are being placed, the pipe adjacent to the manhole shall be visually inspected to detect any evidence of shear in the pipe due to differential settlement between the pipe and the manhole.

309.7.11 LINE PRESSURIZATION

Low pressure air shall be slowly introduced into the sealed line until the internal air pressure reaches 4.0 psig (28 kPag) greater than the average back pressure of any ground water above the pipe, but not greater than 9.0 psig (62 kPag). If ground water is present, refer to Section 310.9 'Determination of Ground-Water Elevation and Air Pressure Adjustment'.

309.7.12 PRESSURE STABILIZATION

After a constant pressure of 4.0 psig (28 kPag) (greater than the average ground water back pressure), is reached, the air supply shall be throttled to maintain that internal pressure for at least 2 minutes. This time permits the temperature of the entering air to equalize with the temperature of the pipe wall.

309.7.13 TIMING PRESSURE LOSS

When temperatures have been equalized and the pressure stabilized at 4.0 psig (28 kPag) (greater than the average ground water back pressure), the air hose from the control panel to the air supply shall be shut off or disconnected. The continuous monitoring pressure gauge shall then be observed while the pressure is decreased to no less than 3.5 psig (24 kPag) (greater than the average back pressure of any ground water over the pipe). At a reading of 3.5 psig (24 kPag), or any convenient observed pressure reading between 3.5 psig (24 kPag) and 4.0 psig (28 kPag) (greater than the average ground water back pressure), timing shall commence with a stop watch or other timing device that is at least 99.8% accurate.

309.7.14 DETERMINATION OF LINE ACCEPTANCE

If the time shown in Table 3, for the designated pipe size length (which includes main line sewers and laterals), before the air pressure drops 0.5 psig (3.4 kPag); the section undergoing test shall have passed and shall be presumed to be free of defects. The test may be discontinued once the prescribed time has elapsed even though the 0.5 psig (3.4 kPag) drop has not occurred.

309.7.15 DETERMINATION OF LINE FAILURE

If the pressure drops 0.5 psig (3.4 kPag) before the appropriate time shown in Table 3 has elapsed, the air loss rate shall be considered excessive and the section of pipe has failed the test.

309.7.16 LINE REPAIR OR REPLACEMENT

If the section fails to meet these requirements, the contractor shall determine at his own expense, the source or sources of leakage and he shall repair or replace all defective materials and/or workmanship to the satisfaction of the City Engineer. The extent and type of repair which may be allowed, as well as the results, shall be subject to the approval of the City Engineer. The completed pipe installation shall then be retested and required to meet the requirements of this test.

309.8 DETERMINATION OF GROUND WATER ELEVATION AND AIR PRESSURE ADJUSTMENT

309.8.1 APPLICABILITY

The requirements of this section shall only apply where ground water is known to exist or is anticipated above the sewer line to be tested.

309.8.2 PIPE INSTALLATION FOR GROUNDWATER ELEVATION MEASUREMENT

During manhole installation, a threaded, capped, perforated pipe shall be extended full-depth vertically to the manhole bench. The manholes to have the perforated pipe will be determined by the City Engineer. This will generally be every fifth manhole, with a minimum of one manhole.

309.8.3 GROUND WATER ELEVATION

Immediately before air testing, the ground water level shall be determined at the perforated pipe. The water level above the invert of the sewer pipe shall be determined. If the section to be tested is not immediately adjacent to an installed perforated pipe, the ground water height shall be estimated based upon nearby height readings and the pipe's invert elevation.

309.8.4 AIR PRESSURE ADJUSTMENT

The air pressure correction, which must be added to the 3.5 psig (24 kPag) normal testing starting pressure, shall be calculated by dividing the average vertical height, in feet (meters) of ground water above the invert of the sewer pipe to be tested, by 2.31 (0.1). The result gives the air pressure correction in pounds per square inch (kPa) to be added. (For example, if the average vertical height of ground water above the pipe invert is 2.8 feet [0.85 m], the additional air pressure required would equal 2.8 [0.85] divided by 2.31 [0.1] or 1.2 psig [8.5 kPag]. This would require a minimum starting pressure of 3.5 psig [24 kPag] plus 1.2 psig [8.5 kPag] or 4.7 psig [32.5 kPag]). The allowable pressure drop of 0.5 psig (3.4 kPag) and the timing in Table 3 are not affected and shall remain the same.

309.8.5 MAXIMUM TEST PRESSURE

In no case should one starting test pressure exceed 9.0 psig (62 kPag). If the average vertical height of ground water above the pipe invert is more than 12.7 feet (3.9 m), the section so submerged may be tested using 9.0 psig (62 kPag) as the starting test pressure.

309.8.6 RE-SEALING OF THE PERFORATED PIPE

After the ground water height has been determined and all testing has been completed, each perforated pipe shall be cut off below finished grade and backfilled with sand.

309.8.7 SPECIFIED TIME TABLES

To facilitate the proper use of this required practice for air testing, the following tables are provided. Table 3 contains specified minimum times required for a 0.5 psig (3.4 kPag) pressure drop from a starting pressure of at least 3.5 psig (24 kPag) greater than the average back pressure of any ground water above the pipe's invert.

**TABLE 3
 SPECIFIED TIME REQUIRED FOR A 0.5 PSIG PRESSURE DROP FOR SIZE
 AND LENGTH OF PIPE INDICATED FOR Q = 0.0015**

1 Pipe Dia. (in)	2 Min. Time (min:sec)	3 Length for Min. Time (ft)	4 Time for Longer Length (sec)	Specification Time for Length (L) Shown (min:sec)								
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft	
4	1:53	597	0.190 L	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53
6	2:50	398	0.427 L	2:50	2:50	2:50	2:50	2:50	2:50	2:50	2:51	3:12
8	3:47	298	0.760 L	3:47	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	239	1.187 L	4:43	4:43	4:43	4:57	5:56	6:55	7:54	8:54	
12	5:40	199	1.709 L	5:40	5:40	5:42	7:08	8:33	9:58	11:24	12:50	
15	7:05	159	2.671 L	7:05	7:05	8:54	11:08	13:21	15:35	17:48	20:02	
18	8:30	133	3.846 L	8:30	9:37	12:49	16:01	19:14	22:26	25:38	28:51	
21	9:55	114	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16	
24	11:20	99	6.837 L	11:24	17:57	22:48	28:30	34:11	39:53	45:35	51:17	
27	12:45	88	8.653 L	14:25	21:38	28:51	36:04	43:16	50:30	57:42	46:54	
30	14:10	80	10.683 L	17:48	26:43	35:37	44:31	53:25	62:19	71:13	80:07	
33	15:35	72	12.926 L	21:33	32:19	43:56	53:52	64:38	75:24	86:10	96:57	
36	17:00	66	15.384 L	25:39	38:28	51:17	64:06	76:55	89:44	102:34	115:23	

BASIS OF PAYMENT

Sanitary sewer installation will be paid for at the contract unit price per foot for SANITARY SEWER of the diameter specified, which price will include all mains, joints, wyes, risers, testing, closed circuit inspection, all excavation except excavation in rock, backfilling, dewatering trenches and bypass pumping.

Sanitary forcemain installation will be paid for at the contract unit price per foot for

SANITARY SEWER, HDPE FORCEMAIN of the diameter specified, which price will include all mains, joints, wyes, risers, testing, inspection, all excavation except excavation in rock, backfilling, dewatering trenches and bypass pumping.

Sanitary forcemain 45 degree joints will be paid for at the contract unit price each for HDPE SANITARY SEWER BEND, 45 DEGREE of the diameter specified.

Trench backfill will be paid for as specified in Article 208.04 of the Standard Specifications.

Excavation in rock will be paid for as specified in Article 502.15 for Rock Excavation for Structures.

Removal and replacement of unsuitable material below plan bedding grade will be paid for according to Article 109.04 of the Standard Specifications.

Sanitary manholes will be paid for at the contract unit price each for SANITARY MANHOLES of the type or type and diameter specified and with the type of frame and lid specified, bedding, all excavation and backfilling, except for rock excavation in rock.

Sanitary Sewer Removal

This item shall consist of the proper removal and satisfactory disposal of existing sanitary sewer pipe where indicated on the plans.

The pipe shall be saw cut at the beginning and ends of the pipe to be removed. Where sanitary sewer is proposed to be removed adjacent to existing sanitary sewer abandonment, the existing in place sanitary sewer shall be sealed with Class SI concrete or brick and mortar in a manner satisfactory to the Engineer. In areas where the sewer will not be replaced, the excavation created by the removal of the pipe shall be backfilled with sand.

This work will be paid for at the contract unit price per foot for SANITARY SEWER REMOVAL of the diameter specified which price shall include all excavation, removing, saw cutting, and backfilling.

Sanitary Forcemain Removal

This item shall consist of the proper removal and satisfactory disposal of existing sanitary forcemain pipe where indicated on the plans.

The pipe shall be saw cut at the beginning and ends of the pipe to be removed. Where forcemain is proposed to be removed adjacent to existing forcemain abandonment, the existing in place forcemain shall be sealed with Class SI concrete or brick and mortar in a manner satisfactory to the Engineer. In areas where the main will not be replaced, the excavation created by the removal of the pipe shall be backfilled with sand.

This work will be paid for at the contract unit price per foot for SANITARY FORCEMAIN REMOVAL of the diameter specified which price shall include all excavation, removing, saw cutting and backfilling.

Sanitary Manholes to be Removed

This item shall consist of the removal and satisfactory disposal of existing sanitary manholes where indicated on the plans in accordance with Section 605 of the Standard Specifications with the following exception – where an existing sanitary sewer is to be utilized, that sewer shall not be plugged.

Sanitary manhole removal will be paid for at the contract unit price each for SANITARY MANHOLES TO BE REMOVED.

Proposed Sanitary Sewer Connections to the City of Naperville Sewers and Forcemain

This work consists of constructing sanitary sewer connections to the City of Naperville's sanitary sewer and forcemain in accordance with the applicable sections of the Special Provisions, "The Standard Specifications for Water and Sewer Main Construction in Illinois" May 1996 edition, and the details and locations shown in the plans.

The work shall also include the necessary removal and proper disposal of any existing sanitary sewer that may occur when the connection is made.

This work and proper disposal of any existing sanitary sewer shall be included in the contract unit price per foot for sanitary sewer and forcemain of the "diameter specified."

LANDSCAPING SPECIAL PROVISIONS

Firemen's Memorial Restoration

This work consists of the removal, storage, relocation, and restoration of the Firemen's Memorial Park during construction of the Jefferson Avenue Bridge over the West Branch DuPage River. The park is located west of the bridge at approximately station 5+90 RT. All items included in this work shall be built in accordance with any applicable Standard Specifications, and as per the details and notes at the locations shown on the Plans.

Tree Transplant. This work shall include the removal, storage, and replacement of existing trees as shown on the plans. The work shall follow the Landscaping General Notes and details shown on the plans. This work shall be paid for at the contract unit price each of TREE TRANSPLANT.

Remove Perennials. This work shall include the removal and disposal of existing perennial plants as shown on the plans. This work shall be paid for at the contract unit price each of REMOVE PERENNIALS.

Remove and Relocate Existing Plaque. This work shall include the removal, storage, and relocation of existing plaques as shown on the plans. The work shall be paid for at the contract unit price each of REMOVE AND RELOCATE EXISTING PLAQUE.

Park Bench Removal and Relocation. This work shall include removing, storing, and relocating existing benches as shown on the plans. This work shall be paid for at the contract unit price each of PARK BENCH REMOVAL AND RELOCATION.

Concrete Pad Removal. This work shall include the removal and disposal of concrete pads at the locations shown on the plans. Removal shall include removal and disposal of the existing aggregate base course. This work shall be paid for at the contract unit price per square foot of CONCRETE PAD REMOVAL.

Concrete Curb Removal. This work shall include the removal and disposal of existing concrete curb at the locations shown on the plans. Removal shall include removal and disposal of the existing aggregate base course. This work shall be paid for at the contract unit price per foot of CONCRETE CURB REMOVAL.

Remove and Relocate Existing Memorial Stone. This work shall include removing, storing, and relocating an existing memorial stone as shown on the plans. Removal shall include the removal and disposal of any existing aggregate base beneath the memorial stone. Relocation shall include the cost of subgrade preparation, subbase materials, and subbase preparation, as shown on the plans. This work shall be paid for at the contract lump sum price for REMOVE AND RELOCATE EXISTING MEMORIAL STONE.

Remove and Reinstall Modular Concrete Pavers. This work shall include removing, storing, and

reinstalling modular concrete pavers as shown on the plans. Removal shall include removal and disposal of the existing aggregate base course. The modular concrete pavers shall be stored as per the plans or by direction of the Landscape Architect until re-installation. The cost of subgrade preparation, subbase materials, and subbase preparation shall be incidental to the re-installation of the brick pavers. This work shall be paid for at the contract unit price per square foot of REMOVE AND REINSTALL MODULAR CONCRETE PAVERS.

Concrete Pad. This work shall include installing a cast-in-place concrete pad to the dimensions and specifications shown on the plans. The cost of subgrade preparation, subbase materials, and subbase preparation shall be incidental to the concrete pad. This work shall be paid for at the contract unit price per square yard of CONCRETE PAD.

Portland Cement Concrete Band for Paver Bricks. This work shall include installing a Portland Cement concrete band to the dimensions and specifications shown on the plans. The cost of subgrade preparation, subbase materials, and subbase preparation shall be incidental to the portland concrete band. This work shall be paid for at the contract unit price per foot of PORTLAND CEMENT CONCRETE BAND FOR PAVER BRICKS.

Seasonal Annuals. This work shall consist of preparing the ground surface and furnishing, transporting, and planting seasonal annuals of the type and quantity specified on the plans. The work shall be performed as per the Landscape General Notes and details included on the plans or as directed by the Landscape Architect. This work shall be paid for at the contract unit price per square foot of SEASONAL ANNUALS.

Perennial Plants. This work shall include furnishing, transporting, and planting perennial plants of the type and quantity specified on the plans. The work shall conform to applicable sections of Article 254 of the Standard Specifications. This work shall be paid for at the contract unit price each of PERENNIAL PLANTS.

Brethren Peace Plaza Restoration

This work consists of the removal, storage, relocation, and restoration of the Brethren Peace Plaza during construction of the Jefferson Avenue Bridge over the West Branch DuPage River. The park is located east of the bridge at approximately station 9+00 RT. All items included in this work shall be built in accordance with any applicable Standard Specifications, and as per the details and notes at the locations shown on the Plans.

Tree Removal. This work shall include removing trees of 6-15 inch diameter as specified under Article 201.04 of the Standard Specifications, at the locations shown on the plans. This work shall be paid for at the contract unit price per unit of diameter under TREE REMOVAL (6 TO 15 UNITS DIAMETER).

Shrub Removal. This work shall include removing shrubs at the locations shown in the plans. All shrubs shall be removed to a depth of not less than 12 in. below the elevation of the subgrade, the finished earth surface, or the ground line, and at least below the bottom of the

subbase material. This work shall be paid for at the contract unit price each under SHRUB REMOVAL.

Fence Removal. This work shall include the removal and disposal of ornamental fencing at the locations shown on the plans. This work shall be paid for at the contract unit price per foot under FENCE REMOVAL.

Sign Removal. This work shall include the removal and disposal of existing signs at the locations shown on the plans. This work shall be paid for at the contract unit price each under SIGN REMOVAL.

Chain Link Fence Removal. This work shall include the removal and disposal of chain link fencing at the locations shown on the plans. This work shall be paid for at the contract unit price per foot of CHAIN LINK FENCE REMOVAL.

Trash Receptacle Relocation. This work shall include removing, storing, and relocating exposed aggregate trash receptacles as shown on the plans. This work shall be paid for at the contract unit price each of TRASH RECEPTACLE RELOCATION.

Remove and Relocate Existing Monument. This work shall include removing, storing, and relocating an existing monument and plaque as shown on the plans. Removal shall include removal and disposal of the existing monument and plaque foundation and backfilling the hole. Relocation shall include constructing a new concrete foundation for the monument and plaque as per the plans. This work shall be paid for at the contract unit price each for REMOVE AND RELOCATE EXISTING MONUMENT.

Brick Paver Removal and Replacement. This work shall include removing, storing, and re-installing existing brick pavers as shown on the plans. Removal shall include removal and disposal of the existing aggregate base course. The brick pavers shall be placed on a pallet, wrapped with shrinkwrap, and stored until re-installation. The cost of subgrade preparation, subbase materials, and subbase preparation shall be incidental to the re-installation of the brick pavers. This work shall be paid for at the contract unit price per square feet of BRICK PAVER REMOVAL AND REPLACEMENT.

Remove and Re-erect Existing Sign. This work shall include removing, storing, and relocating existing signs at the locations shown on the plans. This work shall be paid for at the contract unit price each for REMOVE AND RE-ERECT EXISTING SIGN.

Remove Existing Sign Post. This work shall include the removal and disposal of existing sign posts as shown on the plans. This work shall be paid for at the contract unit price each of REMOVE EXISTING SIGN POST.

Saw Cutting. This work shall include saw cutting existing pavement and concrete curb at the locations shown on the plans. This work shall be paid for at the contract unit price per foot of SAW CUTTING.

Concrete Curb Removal. See Special Provisions for Firemen's Memorial Restoration.

Concrete Curb 6", Reinforced. This work shall include the construction of 6" reinforced concrete curb and CA-6 granular subbase material, type B at the locations shown on the plans. The concrete curb shall be constructed as per Articles 606.03-606.05 of the Standard Specifications. Finishing of the concrete surface shall be as per Article 606.10 of the Standard Specifications. Backfilling shall be as per Article 606.12 of the Standard Specifications. This work shall be paid for at the contract unit price per foot of CONCRETE CURB 6", REINFORCED.

Furnishing and Setting Brick Pavers. This work shall include furnishing and setting brick pavers of the type and size shown on the plans. The cost of subgrade preparation, subbase materials, and subbase preparation shall be incidental to the work. This work shall be paid for at the contract unit price per square foot of FURNISHING AND SETTING BRICK PAVERS.

Park Bench Removal and Relocation. See Special Provisions for Firemen's Memorial Restoration.

Park Benches. This work shall include furnishing and installing park benches of the type and size shown on the plans. This work shall be paid for at the contract unit price each of PARK BENCHES.

Decorative Lighting System Complete. This work shall include furnishing, installing, and wiring new Shepherd's Crook Lighting as detailed on the plans. This work shall be paid for at the contract lump sum price for DECORATIVE LIGHTING SYSTEM COMPLETE.

Provide and Install Double Banner Pole. This work shall include furnishing and installing double banner poles of the type and size shown on the plans. Installation shall follow the Flag Poles/Banner Poles specification included in the Landscaping section of the Jefferson Avenue Bridge Contract Documents. This work shall be paid for at the contract unit price each of PROVIDE AND INSTALL DOUBLE BANNER POLE.

Rough Grading. This work shall consist of leveling earth to the lines and grades specified on the plans. The existing ground shall be prepared as per Article 205.03 of the Standard Specifications. The area of rough grading shall be compacted as per Article 205.05 of the Standard Specifications. The Contractor shall replace, at his/her own expense, any portions of the rough graded area which have been damaged or displaced by reason of carelessness or negligence on the Contractor's part. Once the rough grading has been completed, the area shall be trimmed to the proper slopes where required, and shall be maintained by the Contractor to the proper elevation and cross section until acceptance. This work shall be paid for at the contract unit price per square yard of ROUGH GRADING.

Debris Removal. This work shall include the cleanup of the site and removal of all debris from the site due to the work for the Brethren Peace Plaza. This work shall be paid for at the contract lump sum price of DEBRIS REMOVAL.

Trees and Shrubs. This work shall include the furnishing, transporting, and planting of trees and shrubs of the type and quantity specified on the plans. The work shall conform to applicable sections of Article 253 of the Standard Specifications. This work shall be paid for at the contract unit price each for:

- ACER X FREEMANII 'AUTUMN BLAZE', 4.0"
- TILIA CORDATA 'GREENSPIRE', 5.0"
- EVERGREEN, PINUS NIGRA (AUSTRIAN PINE), 8' HEIGHT, BALLED AND BURLAPPED
- EVERGREEN, TAXUS X MEDIA DENSIFORMIS DENSE ANGLOJAPANESE YEW), 2' WIDTH, BALLED AND BURLAPPED
- CHAENOMELES SPECIOSA 'TEXAS SCARLET', 18"C
- SHRUB, HYDRANGEA ARBORESCENS ANNABELLE (ANNABELLE SMOOTH HYDRANGEA), 2' HEIGHT CONTAINER
- SHRUB, RHUS AROMATICA GRO-LOW (GRO-LOW FRAGRANT SUMAC), 2' WIDTH, CONTAINER
- SHRUB, ROSA KNOCKOUT (KNOCKOUT ROSE), 18" HEIGHT, CONTAINER
- SHRUB, RHUS TYPHINA LACINIATA (CUTLEAF STAGHORN SUMAC), 4' HEIGHT, BALLED AND BURLAPPED
- SHRUB, VIBURNUM X JUDDII (JUDD VIBURNUM) 3' HEIGHT, BALLED AND BURLAPPED, and
- SHRUB, VIBURNUM PRUNIFOLIUM (BLACKHAW VIBURNUM), 5' HEIGHT, BALLED AND BURLAPPED.

Perennial Plants. See Special Provisions for Firemen's Memorial Restoration.

Groundcovers. This work shall include furnishing, transporting, and planting groundcover plantings of the type and quantity specified in the plans. The work shall conform to the planting notes included on the plans or as directed by the Landscape Architect. This work shall be paid for at the contract unit price each for WALDSTENIA FRAGARIOIDES, 3" POT.

Accent Boulder, 30". This work shall include furnishing and installing 30" accent boulders at the locations shown on the plans. This work shall be paid for at the contract unit price each of ACCENT BOULDER, 30".

Compost Furnish and Place, 4". This work shall consist of furnishing, excavating and placing compost at the locations specified on the plans. The work shall conform to Article 211.04 of the Standard Specifications, the planting notes included on the plans, or as directed by the Landscape Architect. This work shall be paid for at the contract unit price per square yard of COMPOST FURNISH AND PLACE, 4".

Pinebark Fines Mulch. This work shall consist of furnishing, excavating, and placing pinebark fines mulch at the locations specified on the plans. The work shall conform to the planting notes included on the plans or as directed by the Landscape Architect. This work shall be paid for at the contract unit price per cubic yard of PINEBARK FINES MULCH.

Shredded Bark Mulch, 3”. This work shall consist of furnishing, excavating, and placing shredded hardwood bark mulch at the locations specified on the plans. The work shall conform to the planting notes included on the plans or as directed by the Landscape Architect. This work shall be paid for at the contract unit price per square yard of SHREDDED BARK MULCH, 3”.

Unit Pavers

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1) Concrete pavers set in aggregate setting beds.
- B. Related Sections include the following:
 - 1) Division 2 Section “Earthwork” for excavation and compacted subgrade.

1.3 SUBMITTALS

- A. Product Data: For the following:
 - 1) Pavers
- B. Sieve Analysis: For aggregate setting-bed materials, according to ASTM C 136.
- C. Samples for Initial Selection: For the following:
 - 1) Each type of unit paver indicated.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of unit paver, from one source with resources to provide materials and products of consistent quality in appearance and physical properties.
- B. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effect and set quality standards for materials and execution.
 - 1) Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

1.6 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

PART 2 – PRODUCTS

2.1 CONCRETE PAVERS

- A. Concrete Pavers: Solid paving units, made from normal-weight concrete with a compressive strength not less than 5,000 psi, water absorption not more than 1 percent mass loss when tested for freeze-thaw resistance according to ASTM C 67.
 - 1) Products: Subject to compliance with requirements, provide the following:
 - a) Field: Paveloc Industries, Stockholm Paver.
 - b) Soldier Course: Paveloc Industries, Holland Paver.
 - 2) Thickness: 2 inches
 - 3) Face size and Shape: 4 x 8 inches rectangle
 - 4) Color: Red

2.2 AGGREGATE SETTING-BED MATERIALS

- A. Graded Aggregate for Subbase: Sound, crushed stone or gravel complying with ASTM D 2940, subbase material.
- B. Graded Aggregate for Base: Sound, crushed stone or gravel complying with ASTM D 2940, base material.
- C. Sand for leveling Course: Sound, sharp washed, natural sand or crushed stone complying with gradation requirements in ASTM C 33 for fine aggregate.
- D. Stone Screenings for Leveling Course: Sound stone screenings complying with ASTM D 448 for Size No. 10.
- E. Sand for Joints: Fine, sharp, washed, natural sand or crushed stone with 100 percent passing No. 16 sieve and no more than 10 percent passing No. 200 sieve.
 - 1) Provide sand color needed to produce required joint color.
- F. Herbicide: Commercial chemical for weed control, registered with EPA. Provide in granular, liquid, or wettable powder form.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine areas indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
 - 1) Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Proof-roll prepared subgrade according to requirements on Division 2 Section "Earthwork" to identify soft pockets and areas of excess yielding. Proceed with

unit paver installation only after deficient subgrades have been corrected and are ready to receive base course for unit pavers.

3.3 INSTALLATION, GENERAL

- A. Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be visible in finished work.
- B. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
- C. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
- D. Joint Pattern: 45° Running bond field.
- E. Tolerances: Do not exceed 1/32" unit to unit offset from flush (lippage) nor 1/8" in 10 ft. from level, or indicated slope, for finished surface of paving.
- F. Tolerances: Do not exceed 1/16" unit to unit offset from flush (lippage) not 1/8" in 24" and 1/4" in 10 ft. from level, or indicated slope, for finished surface of paving.

3.4 AGGREGATE SETTING-BED APPLICATIONS

- A. Compact soil subgrade uniformly to at least 95 percent of ASTM D 1557 laboratory density.
- B. Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect and replace with compacted backfill or fill as directed.
- C. Place aggregate base, compact to 100 percent of ASTM D 1557 maximum laboratory density, and screed to depth indicated.
- D. Place leveling course and screed to a thickness of 1 to 1 1/2", taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.
- E. Treat leveling course with herbicide to inhibit growth of grass and weeds.
- F. Set pavers with a minimum joint width of 1/16" and a maximum of 1/8", being careful not to disturb leveling base. If pavers have spacer bars, place pavers hand tight against spacer bars. Use string lines to keep straight lines. Fill gaps between units that exceed 3/8" (10 mm) with pieces cut to fit from full-size unit pavers.
 - 1) When installation is performed with mechanical equipment, use only unit pavers with spacer bars on sides of each unit.
- G. Set pavers with a minimum joint width of 1/16" and a maximum of 1/8", being careful not to disturb leveling base. If pavers have spacer bars, place pavers hand tight against spacer bars. Use string lines to keep straight lines. Fill gaps between units that exceed 3/8" (10 mm) with pieces cut to fit from full-size unit pavers.
 - 1) After edge pavers are installed and there is a completed surface or before surface is exposed to rain.

- 2) Before ending each day's work, fully compact installed concrete pavers to within 36" of the laying face. Cover pavers that have not been compacted, and leveling course on which pavers have not been placed, with nonstaining plastic sheets to protect them from rain.
 - H. Spread dry sand and fill joints immediately after vibrating pavers into leveling course. Vibrate pavers and add sand joints are completely filled, then remove excess sand. Leave a slight surplus of sand on the surface for joint filling.
 - I. Do not allow traffic on installed pavers until sand has been vibrated into joints.
 - J. Repeat joint-filling process 30 days later.
- 3.5 REPAIRING, POINTING, AND CLEANING
- A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.
- 4.0 METHOD OF MEASUREMENT
- A. Unit Pavers shall be measured for payment in square feet in place.
- 5.0 METHOD OF MEASUREMENT
- A. This work will be paid at the contract unit price per square feet for FURNISHING AND SETTING BRICK PAVERS. All labor and materials necessary to complete the work shall be included in the contract unit price for FURNISHING AND SETTING BRICK PAVERS.

Flagpoles / Banner Poles

PART 1 – GENERAL

- 1.1 RELATED DOCUMENTS
 - A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.
- 1.2 SUMMARY
 - A. This Section includes ground-set flagpoles made from aluminum.
 - B. Related Sections include the following:
 - 1) Division 3 Section – “Cast-in-Place Concrete” for concrete footings for flagpoles.
- 1.3 SUBMITTALS
 - A. Product Data: For each type of flagpole required.
- 1.4 QUALITY ASSURANCE

- A. Source limitations: Obtain flagpole as a complete unit, including fittings, accessories, bases, and anchorage devices, from a single manufacturer.

1.5 DELIVER, STORAGE, AND HANDLING

- A. General: Spiral wrap flagpoles with heavy paper and enclose in a hard fiber tube or other protective container.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide product by the following:
 - 1) American Flagpole Co.

2.2 FLAGPOLES

- A. Exposed Height: 25 feet.
- B. Aluminum Flagpoles: Provide cone-tapered flagpoles fabricated from seamless extruded tubing complying with ASTM B 241/, Alloy 6063, with a minimum wall thickness of 3/16". Heat treat after fabrication to comply with ASTM B 597, Temper T6.
- C. Foundation Tube: Galvanized corrugated-steel foundation tube, 0.064" minimum nominal wall thickness. Provide with 3/16" steel bottom plate and support plate; 3/4" (19 mm) diameter, steel ground spike; and steel centering wedges all welded together. Galvanize steel parts, including foundation tube, after assembly. Provide loose hardwood wedges at top of foundation tube for plumbing pole.
 - 1) Provide flashing collar of same material and finish as flagpole.
 - 2) Provide steel ground protectors extending 12" above ground and 6" below ground for steel flagpoles where flashing collars are not provided.
- D. Cast-Metal Shoe Base: For anchor-bolt mounting; provide with anchor bolts.
 - 1) Provide units made from same metal and with same finish as flagpoles.
 - 2) Provide ground spike at pavement-mounted metal flagpoles.
 - 3) Provide connector for lightning protection system conductor at roof-mounted metal flagpoles.

2.3 MISCELLANEOUS MATERIALS

- A. Concrete: Provide concrete composed of Portland cement, coarse and fine aggregate, and water mixed in proportions to attain a 28-day compressive strength of not less than 3000 psi, complying with ASTM C 94/C 94M.

2.4 FINISHES

- A. Aluminum: Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
 - 1) Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; chemical Finish: etched, medium matte; Anodic

Coating; Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.

a. Color: Black

PART 3 – EXECUTION

3.1 PREPARATION

- A. Prepare uncoated metal flagpoles that are set in foundation tubes by painting below-grade portions with a heavy coat of bituminous paint.
- B. Foundation Excavation: Excavate to neat clean lines in undisturbed soil. Remove loose soil and foreign matter from excavation and moisten earth before placing concrete.
- C. Provide forms where required due to unstable soil conditions and for perimeter of flagpole base at grade. Secure and brace forms and foundation tube, sleeve, or anchor bolts in position, to prevent displacement during concreting.
- D. Place concrete immediately after mixing. Compact concrete in place by using vibrators. Moist-cure exposed concrete for not less than seven days or use nonstaining curing compound.
- E. Trowel exposed concrete surfaces to a smooth, dense finish, free of trowel marks, and uniform in texture and appearance. Provide positive slope for water runoff to perimeter of concrete base.

3.2 FLAGPOLE INSTALLATION

- A. General: Install flagpoles where shown and according to Shop Drawings and manufacturer's written instructions.
- B. Foundation-Tube Installation: Install flagpole in foundation tube, seated on bottom plate between centering wedges. Plumb flagpole and install hardwood wedges. Seal top of foundation tube with a 2-inch layer of elastomeric joint sealer and cover with flashing collar.
- C. Baseplate Installation: Install baseplate on washers placed over leveling nuts on anchor bolts and adjust until flagpole is plumb. After flagpole is plumb, tighten retaining nuts and fill space under baseplate solidly with nonshrink, nonmetallic grout. Finish exposed grout surfaces smooth and slope 45 degrees away from edges of baseplate.

4.0 METHOD OF MEASUREMENT

- B. Flagpoles/ Banner Poles shall be measured for payment per each in place.

5.0 METHOD OF MEASUREMENT

- B. This work will be paid at the contract unit price per square feet for PROVIDE AND INSTALL DOUBLE BANNER POLE. All labor and materials necessary to complete the work shall be included in the contract unit price for PROVIDE AND INSTALL DOUBLE BANNER POLE.

STREET LIGHTING SPECIAL PROVISIONS

Maintenance of Lighting Systems

Effective: January 1, 2007

Replace Article 801.11 and 801.12 of the Standard Specifications with the following:

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of all existing and proposed lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

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

Existing lighting systems, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm and ascertain the exact condition of the electrical equipment and systems to be maintained.

Maintenance of Existing Lighting Systems

Existing lighting systems. Existing lighting systems shall be defined as any lighting system or part of a lighting system in service prior to this contract. The contract drawings indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

Extent of Maintenance

Partial Maintenance. Unless otherwise indicated, If the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work, the Contractor needs only to maintain the affected circuits. The affected circuits shall be isolated by means of in-line waterproof fuse holders as specified elsewhere and as approved by the Engineer.

Full Maintenance. If the number of circuits affected by the contract is greater than 40% of the total number of circuits in a given controller, or if the controller is modified in any way under the contract work, the Contractor shall maintain the entire controller and all associated circuits.

Maintenance of Proposed Lighting Systems

Proposed Lighting Systems Proposed lighting systems shall be defined as any lighting system or part of a lighting system which is to be constructed under this contract. The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, or other means. The potential cost of replacing or repairing any malfunctioning or damaged equipment shall be included in the bid price of this item and will not be paid for separately.

Lighting System Maintenance Operations

The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract with the local agencies. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage caused by normal vehicular traffic, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	N/A	7 Calendar days
Radio problem	1 hour	4 hours	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	N/A
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	N/A

Outage of 75% of lights on one tower	1 hour	4 hours	N/A
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	N/A
Outage (single or multiple) found on night outage survey or reported to EMC	N/A	N/A	7 Calendar days
Navigation light outage	N/A	N/A	24 hours

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.

- **Service Restoration Time** - amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)

- **Permanent Repair Time** - amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. Repeated failures and/or a gross failure of maintenance shall result in the State's Electrical Maintenance Contractor being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

Damage caused by the Contractor's operations shall be repaired at no additional cost to the Contract.

Operation of Lighting

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods. The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request.

Basis of Payment. Maintenance of lighting systems shall be paid for at the contract unit price per lump sum for MAINTAIN LIGHTING SYSTEM, which shall include all work as described herein.

1 ¼" Unit Duct, 4/C - #6 XLP/USE-2, Directional Boring

Work shall include furnishing and installing 1 ¼" Unit Duct, 4/C - #6 USE-2/XLP, copper conductor, in conduit by directional boring method and connecting the conduit to other 1 ¼" Unit Duct conduit and cable, street light standards, hand holes, controllers, and splice boxes.

- A. This work shall be performed in accordance with Section 821 of the Standard Specifications with the provisions as follows:
- Directional boring shall be used in areas where the right-of-way should not be disturbed and as noted on the plans.
 - The directional boring unit shall be equipped with a guide head with multiple transmitter frequencies to ensure tracking accuracy.
 - Existing electrical services exist in the vicinity of proposed boring; the directional boring technique used, therefore, shall be capable of detecting voltage.
 - The boring machine should be capable of being idled from the operator's station in order to reduce engine noise when possible.
 - Drilling of existing hand holes to connect the conduit shall be considered incidental to this pay item, as are any costs to connect the conduit.
 - The boring machine utilized at any given point in the installation of the conduit shall be the smallest possible for the job. The Contractor shall provide the Engineer with proposed locations of the boring machine and approximate size of the boring machine to be used before work commences. Depending on the specific location, the Engineer may call for a specific placement of the boring machine to minimize interference with pedestrian and vehicular traffic. City alleys, parkways, and parking lanes are available for placement of the boring machine. If placement precludes the safe passage of pedestrians, the sidewalk shall be closed per IDOT Standard 701801. The Engineer shall give final determination on any boring machine set-up as to whether the proximity is safe and appropriate for pedestrian passage.
- B. Short runs of conduit requiring installation by trenching shall be measured and paid for as conduit installed by directional boring method.

Any trenching for the placement of conduit by directional boring method for the purposes of making the connection of conduit to street lighting pole foundation, hand hole, controller foundation, etc. shall be incidental to installation of conduit by directional boring method. Splicing of lighting cables shall be incidental to the contract unit price per foot measured in straight lines between changes in direction and to the centers of equipment, boxes, access points, and street lighting pole foundations with 6 feet of cable allowance for each connection to a street lighting pole, 6 feet for connection at each hand hole, 10 feet for connection to each controller, 6 feet for each secondary pedestal, 6 feet

for each splice box, and 10 feet for each transformer/switchbox for UNIT DUCT WITH 4/C NO.6 (XLP-TYPE USE), DIRECTIONAL BORING, 1 ¼”.

Trench and Backfill for Electrical Work (Special)

This item shall consist of constructing a trench for the accommodation of conduit and backfilling it in accordance with Article 868 of the Standard Specifications except as revised by these special provisions. The 3rd paragraph of Article 868.03(a) is deleted.

This work includes all excavation, furnishing and placing all backfill material (CA-6 under all paved surfaces), disposal of surplus excavation, to original condition and all labor, materials, equipment, tools, and incidentals necessary to complete the work as herein specified.

The trench shall not be less than 30 inches (2.5 feet) deep with cable installation at a minimum of 30 inches in depth. Any auguring necessary for the purpose of placing conduit or cable under sidewalks, driveways or trees shall be considered incidental to the pay item.

This work will be paid for at the contract unit price per foot for TRENCH AND BACKFILL FOR ELECTRICAL WORK (Special).

Yellow Warning Tape Over Street Light Cable

This work shall consist of placing 4-inch wide yellow warning tape over the street light duct at all locations where new cable is placed by the Contractor. The warning tape shall be placed 1 foot (12”) below grade in accordance with Naperville Standard Detail ELECTRIC-9.

This work shall be considered incidental to TRENCH AND BACKFILL FOR ELECTRICAL WORK.

Expose and Relocate Existing Unit Duct

Work shall include disconnecting electrical cables in existing street lights, excavating existing conduit, relocating existing PVC or Unit Duct conduit, and connecting the conduit to the new street light standards in accordance with Article 810 of the Standard Specifications.

This work will be paid for at the contract unit price per foot for Expose and Relocate Existing Unit Duct.

Removal of Electric Cable from Conduit, Disposal

This work consists of disconnecting electrical cables in existing street lights and removal of existing aluminum electrical cables from 1 ½” and 2” PVC conduits and disposal by the Contractor in accordance with Article 873 of the Standard Specifications except as revised by these special provisions.

This work will be paid for at the contract unit price per foot per conductor for REMOVE ELECTRIC CABLE FROM CONDUIT.

Electrical Cable in Conduit, 600 Volt

Work shall include furnishing and installing street light conductor cable into conduit and connecting the cable to the street light standard, to other conductor cables, and to service point.

The material supplied shall be XLP/USE-2, 600-volt cable (colored insulated jacket of black, white, red, and green) of the specified number of conductors and cable size per Section 822 of the Standard Specifications.

Splicing of Lighting Cables shall be incidental to the installation of electrical cable in conduit. This work will be paid for at the contract unit price per foot measured in straight lines between changes in direction and to the centers of equipment, boxes, access points, street lighting pole foundations with 6 feet of cable allowance for each connection to a street lighting pole, 6 feet for connection at each hand hole, 10 feet for connection to each controller, 6 feet for each secondary pedestal, 6 feet for each splice box, and 10 feet for each transformer/switchbox for ELECTRICAL CABLE IN CONDUIT, 600 VOLT, at the specified cable size and number of conductors.

Splicing of Lighting Cables

The following is added to Section 801 and 1085.02 of the Standard Specifications. Splices above grade, such as in poles and junction boxes, shall have a waterproof seal and a heat-shrinkable plastic cap. The cap shall be of a size suitable for the splice and shall have a factory-applied sealant within. Additional seal of the splice shall be assured by the application of sealant tape or the use of a sealant insert prior to the installation of the cap. Either method shall be assured compatible with the cap sealant. Tape sealant shall be applied in not less than one half-lapped layer for a length of at least 6.35mm (¼ inch) longer than the cap length and the tape shall also be wrapped into the crotch of the splice. Insert sealant shall be placed between the wires of the splice and shall be positioned to line up flush or extend slightly past the open base of the cap.

Relocate Existing Lighting Unit

This work shall consist of removing an existing lighting unit and reinstalling it on a relocated foundation in accordance with Article 844.03 of the Standard Specifications.

This work will be paid for at the contract unit price per each for RELOCATE EXISTING LIGHTING UNIT.

Relocate Existing Metal Light Pole Foundation

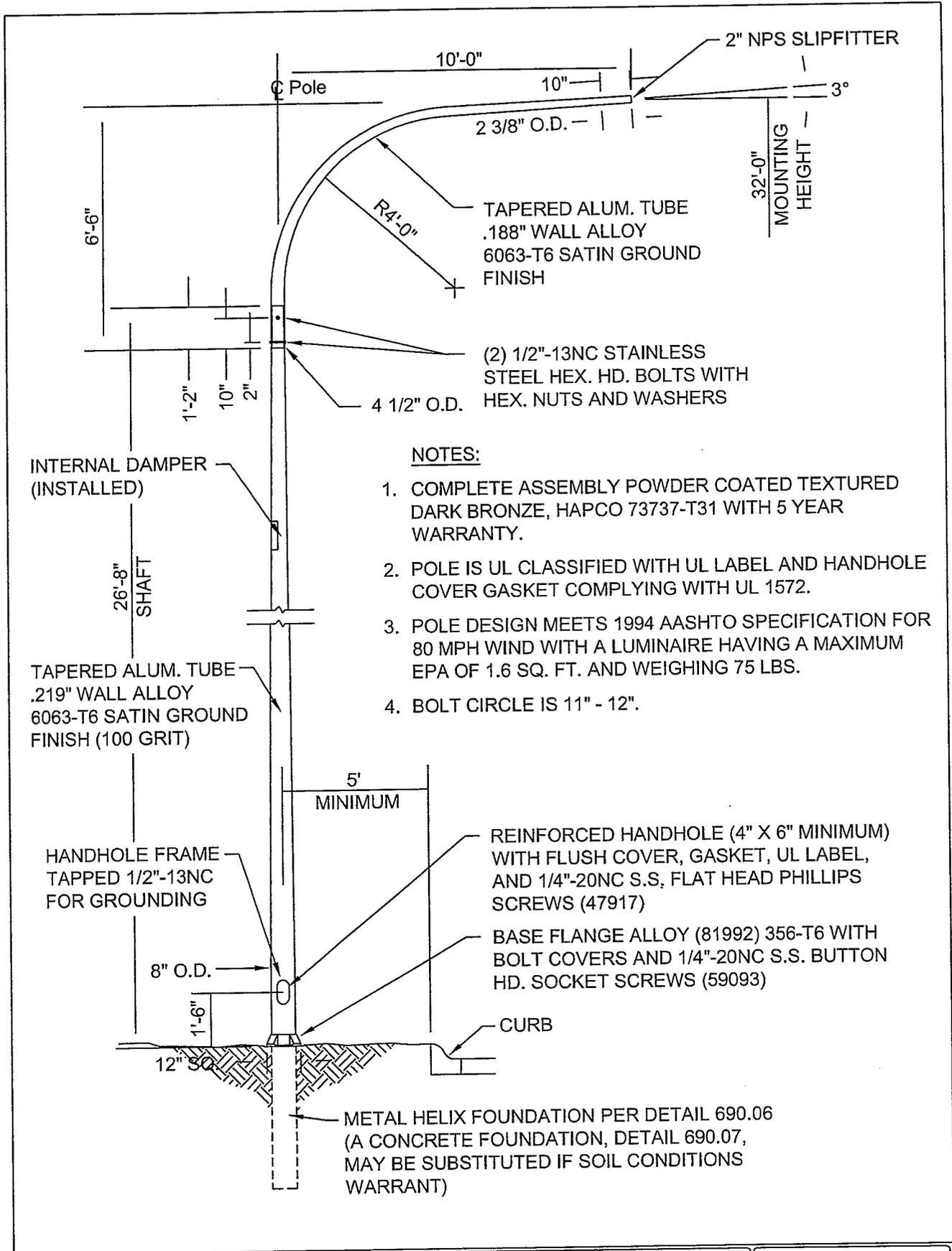
FAU Route 3570 Jefferson Avenue
Section 00-00116-00-BR
City of Naperville
DuPage County

This work consists of the removal of a metal street lighting pole foundation, backfilling the hole, and reinstalling the foundation at a new location by the Contractor at the location shown in the plans and/or as directed by the Engineer.

This work will be paid for at the contract unit price per each for RELOCATE EXISTING METAL LIGHT POLE FOUNDATION.

CITY OF NAPERVILLE STANDARD LIGHTING DETAILS

<u>Drawing #</u>	<u>Sheet #</u>	<u>Description</u>
690.04	1	Davit Arm Street Light – 32 Foot
690.07	1	Helix Type Pole Foundation Detail
690.08	2	Concrete Pole Foundation Detail
690.30	1	Electrical Conduit Under Pavement
690.31	1	Typical Trench Detail
NA	1	Shepherds Crook Light Pole

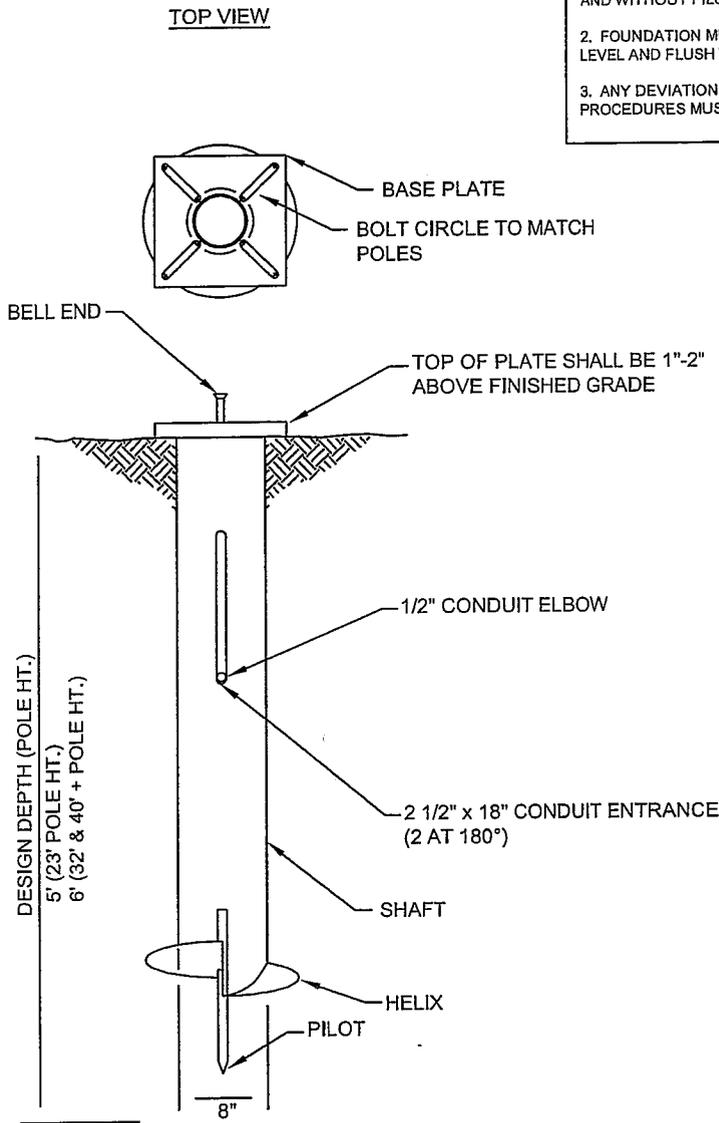


NOTES:

1. COMPLETE ASSEMBLY POWDER COATED TEXTURED DARK BRONZE, HAPCO 73737-T31 WITH 5 YEAR WARRANTY.
2. POLE IS UL CLASSIFIED WITH UL LABEL AND HANDHOLE COVER GASKET COMPLYING WITH UL 1572.
3. POLE DESIGN MEETS 1994 AASHTO SPECIFICATION FOR 80 MPH WIND WITH A LUMINAIRE HAVING A MAXIMUM EPA OF 1.6 SQ. FT. AND WEIGHING 75 LBS.
4. BOLT CIRCLE IS 11" - 12".

	<p>City of Naperville STANDARD DETAIL</p>	<p>DAVIT ARM STREET LIGHT DETAIL - 32 FOOT</p>	<p>LIGHTING 4</p>
EFFECTIVE: 2/29/2008		SHEET 1 OF 1	690.04

- NOTES:**
1. FOUNDATION MUST BE INSTALLED PRIOR TO TRENCHING AND WITHOUT PILOT HOLE.
 2. FOUNDATION MUST BE INSTALLED WITH BASEPLATE LEVEL AND FLUSH WITH FINISHED GRADE
 3. ANY DEVIATION FROM ABOVE INSTALLATION PROCEDURES MUST BE APPROVED BY ENGINEER.



FOUNDATION	
SHAFT:	ASTM A53 SCHEDULE 4 Ø, GRADE B. ASTM A501 OR ASTM A252, GRADE 2.
BASE PLATE:	ASTM A36
HELIX:	ASTM A29
PILOT:	ASTM 575
GALVANIZED FOUNDATION PER ASTM A153 AFTER FABRICATION.	
HARDWARE	
CARRIAGE BOLTS:	SAE J429 GRADE 5 GALVANIZED A153 CLASS C
HEAVY HEX NUTS:	ASTM A563 GRADE D OR DH GALVANIZED A153
WASHERS:	ASTM F436 GALVANIZED A 153



City of Naperville
**STANDARD
DETAIL**

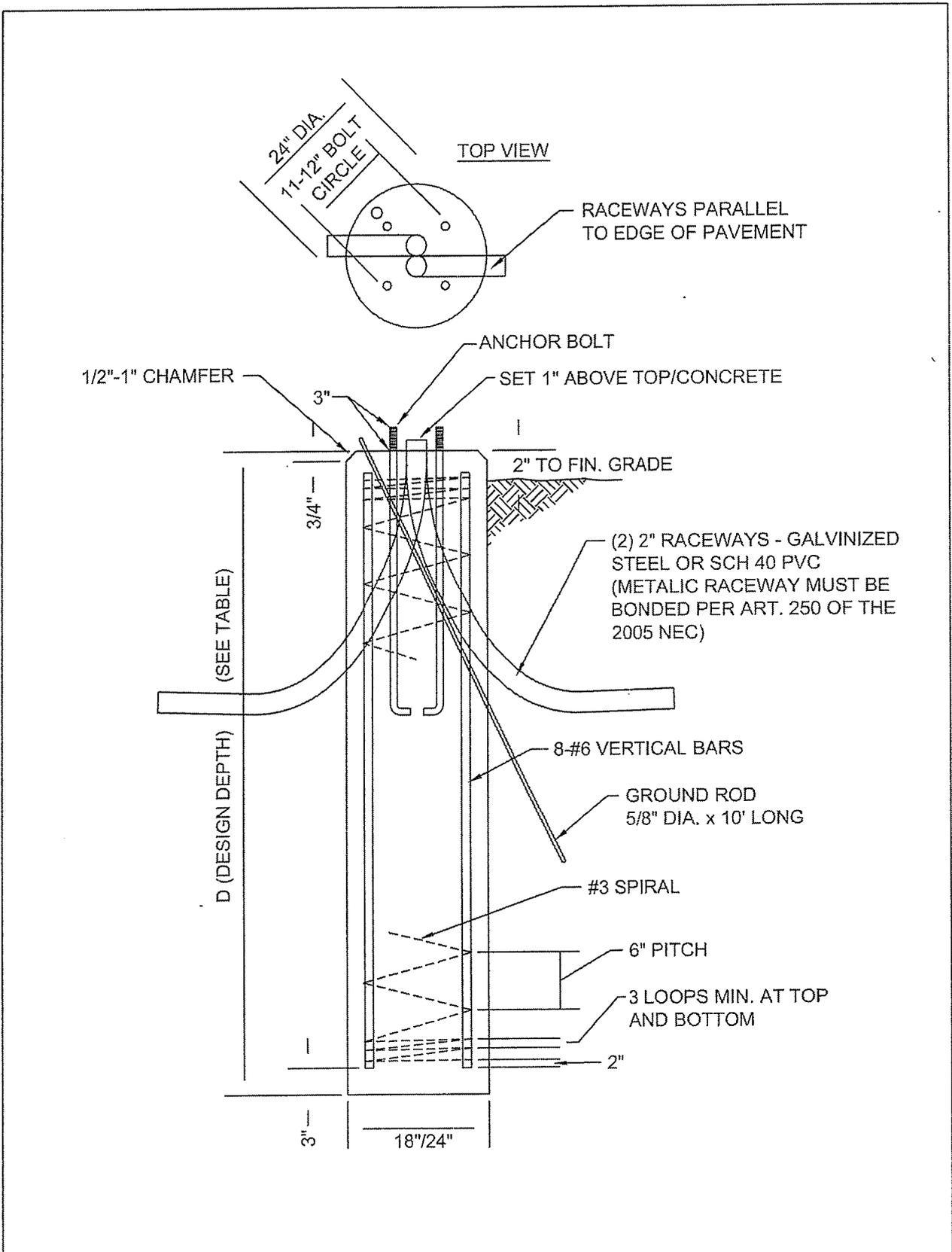
**HELIX TYPE POLE
FOUNDATION DETAIL**

EFFECTIVE: 2/29/2008

SHEET 1 OF 1

LIGHTING 7

690.07



	City of Naperville STANDARD DETAIL	CONCRETE POLE FOUNDATION DETAIL		LIGHTING 8
		EFFECTIVE: 2/29/2008	SHEET 1 OF 2	690.08

FOUNDATION DESIGN TABLE

TYPE OF SOIL	TYPICAL FOUNDATION DEPTH		REINFORCEMENT IN FOUNDATION			
	SINGLE ARM D	TWIN ARM D	SINGLE ARM		TWIN ARM	
			VERT. BARS	SPIRAL	VERT. BARS	SPIRAL
SOFT CLAY	13'	15'	8 #6 x 12'-6"	#3 x 122'	8 #6 x 14'-3"	#3 x 141'
MEDIUM CLAY	9'-6"	10'-9"	8 #6 x 10'-9"	#3 x 90'	8 #6 x 10'-0"	#3 x 100'
STIFF CLAY	7'	8'	8 #6 x 6'-6"	#3 x 66'	8 #6 x 7'-6"	#3 x 76'
LOOSE SAND	9'	10'	8 #6 x 8'-6"	#3 x 85'	8 #6 x 9'-6"	#3 x 94'
MEDIUM SAND	8'-3"	9'	8 #6 x 8'-0"	#3 x 78'	8 #6 x 8'-6"	#3 x 85'
DENSE SAND	7'-9"	9'	8 #6 x 7'-6"	#3 x 73'	8 #6 x 8'-6"	#3 x 85'
ROCK OR SOLIDIFIED SLAG	5'	5'	NONE	NONE	NONE	NONE



City of Naperville
**STANDARD
DETAIL**

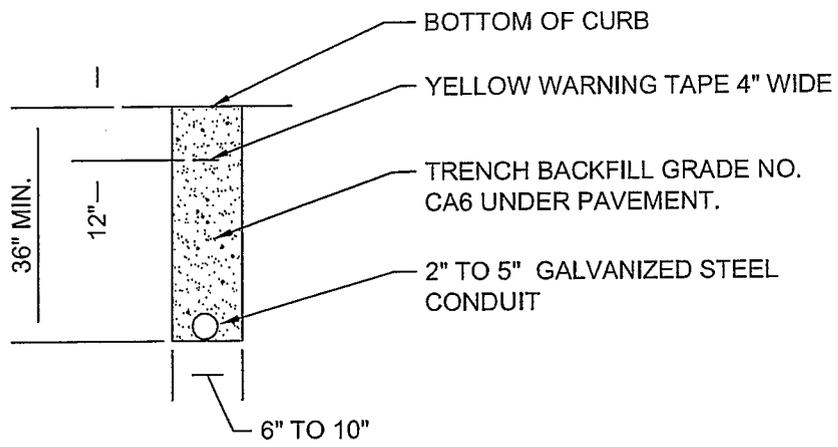
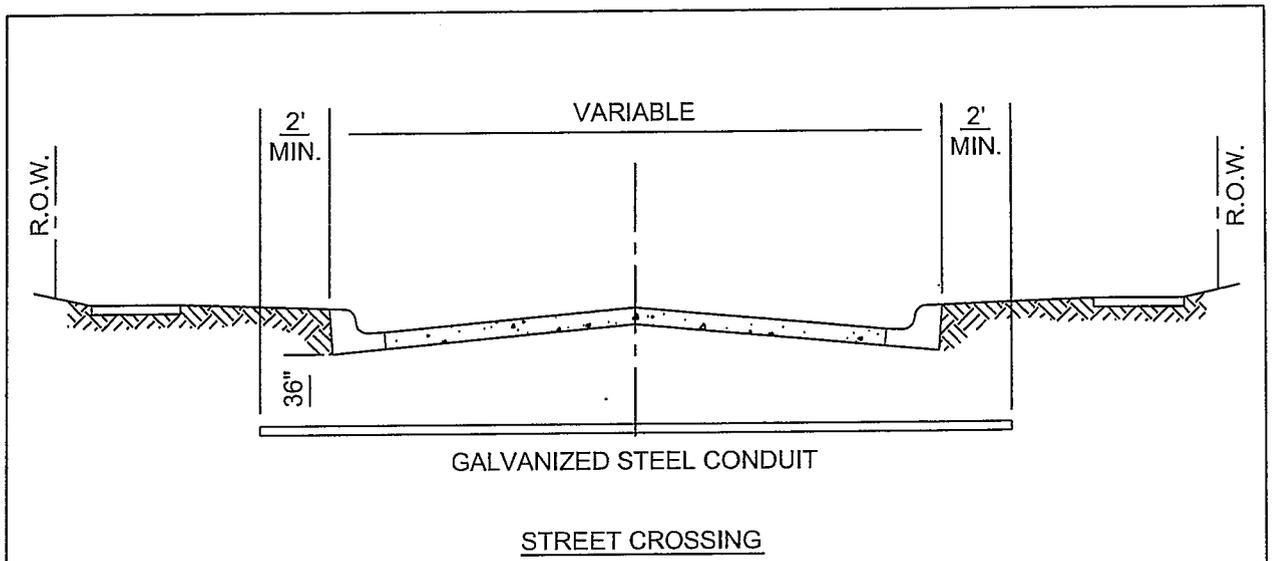
POLE FOUNDATION DETAIL

EFFECTIVE: 2/29/2008

SHEET 2 OF 2

LIGHTING 8

690.08



NOTES:

1. CONDUIT SHALL BE GALVANIZED STEEL CONDUIT.
2. CONDUIT SHALL EXTEND A MINIMUM OF 2' BEYOND BACK OF CURB.
3. CONDUIT SHALL BE A MINIMUM OF 36" BELOW CURB BOTTOM.



City of Naperville
**STANDARD
 DETAIL**

**ELECTRIC CONDUIT UNDER
 PAVEMENT**

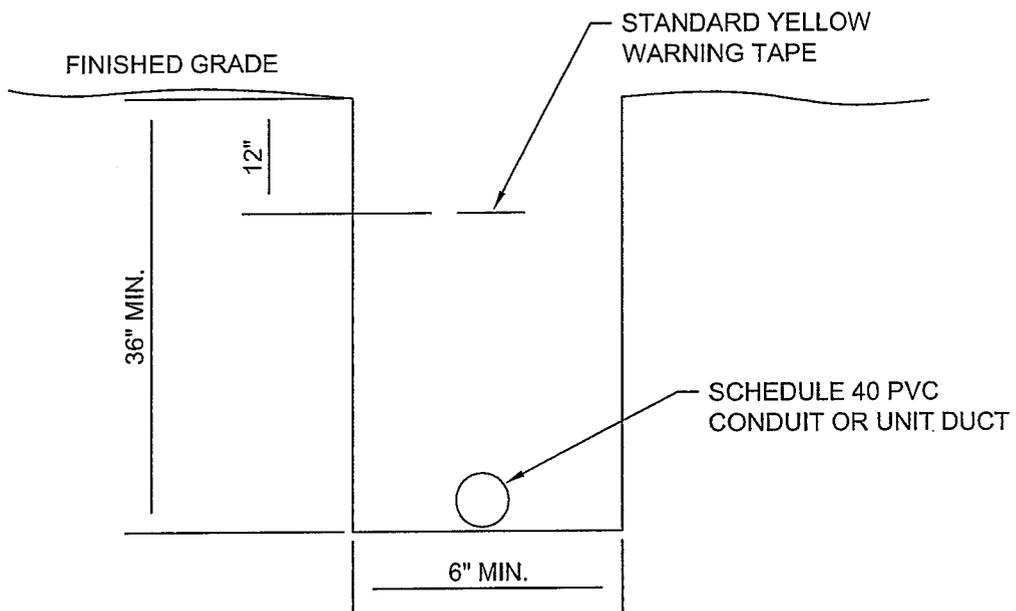
EFFECTIVE: 2/29/2008

SHEET 1 OF 1

LIGHTING 30

690.30

UNDERGROUND ELECTRIC CONDUIT



City of Naperville
**STANDARD
DETAIL**

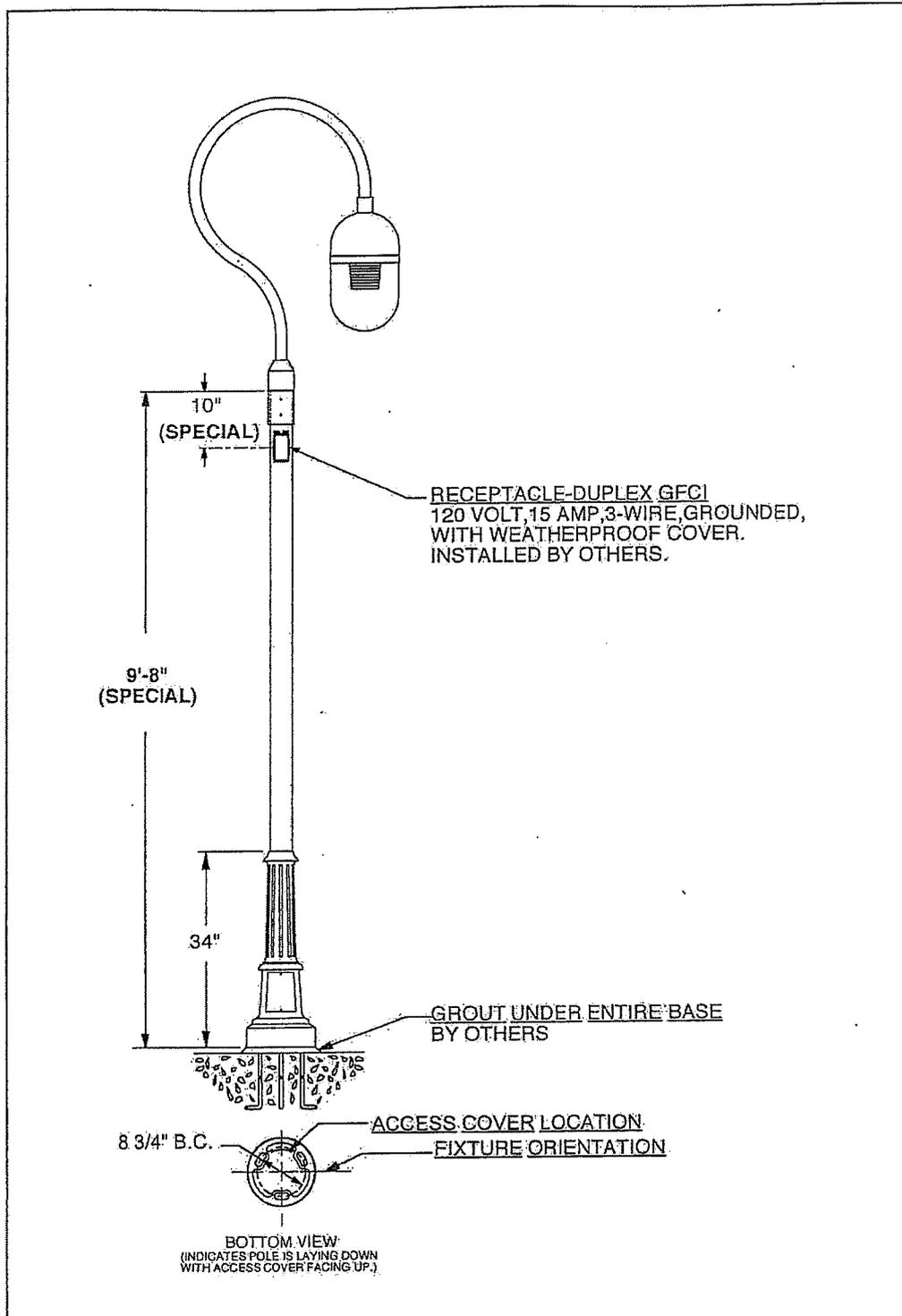
TYPICAL TRENCH DETAIL

EFFECTIVE: 2/29/2008

SHEET 1 OF 1

LIGHTING 31

690.31



TYPE	
CATALOG NUMBER	
ALN403CGR5D-SLA5-	
DB1-4R10-125-GFI	
03A-1947	
FINISH: POLYESTER POWDER COAT.	
AAL COLOR:	BLK
TO MATCH:	
PROVIDE A SAMPLE COLOR CHIP	
LAMPING	
LAMP TYPE	MH
SOCKET	PULSE RATED MEDIUM
WATTAGE	70
VOLTAGE	120 Δ
ALL BALLAST ARE HPF CONSTANT WATTAGE, -30 DEGREE STARTING. ALL SOCKETS ARE PORCELAIN, PULSE RATED 4KVA.	
ANCHOR BOLTS:	
QTY	3 Δ
SIZE	3/4" x 24" x 3" Δ
BOLT CIRCLE	8 3/4"
PROJECTION	3 1/2"
FS1/FS2 OPTIONS: FUSE HOLDERS ONLY. FUSES BY OTHERS.	
LEVELING NUTS AND WASHERS MUST BE INSTALLED UNDER ALL BASES	
ONE APPROVED DRAWING MUST BE RETURNED TO A.A.L., BEFORE THIS PRODUCT CAN BE FABRICATED.	
WARNING: THIS FIXTURE MUST BE GROUNDED IN ACCORDANCE WITH LOCAL CODES OR THE NATIONAL ELECTRICAL CODE. FAILURE TO DO SO MAY RESULT IN SERIOUS PERSONAL INJURY.	

SOLD TO **GES** Δ PO# **4501981521** Δ JOB NAME **NAPERVILLE**

A RCHITECTURAL A REA L IGHING	14249 Artesia Blvd, P.O. Box 1869 La Mirada CA, 90638-1869 (714)994-2700 fax(714)994-0522 Architectural Area Lighting Inc, Reserves The Right To Change Manufacturing Processes Without Notice.	03A-1947
	DATE	DRWN
	9-26-03	A.F.M
	DATE	APPRVD
DATE	REV.	
07-27-05	Δ	

GENERAL SPECIFICATION FOR JEFFERSON AV. BRIDGE ELECTRIC WORK

GENERAL REQUIREMENTS

General

This project includes the installation of approximately 6,360 lineal feet of 6" diameter Schedule 40 PVC conduit in concrete encased duct bank, and 700 lineal feet of 3" diameter schedule 40 PVC conduit in concrete encased duct bank, 3 manholes, 1 Switch Gear Vaults, install under-bridge conduit support system, restoration, field documentation, and miscellaneous items from the west of Jefferson Av. Bridge to Parkway Dr. and is approximately 1,000' feet east- west of Jefferson Av. Bridge over the DuPage River for a complete job. See City of Naperville Electric Drawings in the Plans and Details/Standard Drawings attached.

Provide all labor and materials required to modify, install, and under ground conduit system plus and under bridge conduit support system. Perform excavation, backfilling, and other incidental labor and equipment requirement for a complete job.

Consider streets, alleys, roads, easements, and drives City of Naperville's right-of-way.

Provide restoration and all temporary facilities to maintain existing services. The transferring or relocation of existing facilities or support is considered incidental to the work and is included for a complete job.

The Contractor shall be trained in confined space entry, tag in – tag out procedures and qualified to work on, near or around 12kV overhead or underground facilities. All employees shall be O.S.H.A trained in live line work.

Materials supplied by the City of Naperville and installed by the Contractor are those necessary to install the concrete encased duct bank system, and vaults excluding the under bridge conduit support system and include, but are not limited to: 3" and 6" diameter PVC conduit, 3" and 6" steel bends; riser attachments; top, bottom and intermediate spacers; couplings; warning tape; glue; detectable tape; manhole grounding system; solvent cement; marker balls; plugs; pulling cord and pre-cast concrete manholes including concrete adjusting rings, frame and covers (pre cast vault)

Contractor to review the material sheets provided in the drawings by the City of Naperville.

Materials supplied by the Contractor are those necessary to install the under-bridge conduit support system, and include, but are not limited to: 6" Rigid Galvanized steel conduit with steel-to-plastic threaded couplings (both ends); conduit hanger materials, welding supplies, fall protection materials, vault cover, and all other miscellaneous items required for a complete installation plus the plastic ties to secure the 3 inch conduit to the duct spacers. The Contractor shall supply all materials not supplied by the City of Naperville but is required for a complete job. All material costs are included in pricing for each item bid.

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The City of Naperville furnished materials will be loaded, transported and unloaded by the Contractor from the City warehouse at 1392 W. Aurora Av. to the job site. Pre-cast concrete manhole sections will be delivered to the site by the City's supplier. The Contractor shall be responsible for scheduling delivery time and location with the City's supplier, and all equipment and labor associated with unloading the pre-cast concrete manhole sections. The Contractor will properly store and protect all materials on site. Any miscellaneous materials not supplied by the City, but necessary to complete the work as shown on the Plans, as directed by the Engineer or as specified herein will be supplied by the Contractor and are considered included in the cost of the various items of work. Materials issued by the City but not used in the course of the job shall be promptly returned to the City.

The Contractor shall be responsible for coordinating work scheduling, traffic control, pedestrian control, maintaining the bike path, and providing and provisioning a site trailer plus outages of the Electrical system or working around other utilities or relocating other utilities

NOTE: All items are estimated quantities, and all payments are based on field installed equipment and field measurements. The City of Naperville does not guarantee the quantities estimated. Quantities may be more or less and the City of Naperville reserves the right to reduce or eliminate quantities, or add quantities at the prices bid. The contractor shall be paid for the actual quantities installed as field measured. The Contractor shall provide manpower to assist in measuring. Completion of this project shall be the same as the bridge rehabilitation completion date.

The Contractor shall prepare a schedule of all activities of the bridge work within 10 days after award and noticed to proceed.

The Contractor will not be allowed inside the stockyard without being accompanied by warehouse personnel.

Material pick-up will only be allowed between Mondays – Friday from 7:00 A.M. to 3:00 P.M. No Saturday or Sunday pick-up will be allowed.

The warehouse is closed daily from 12:00 P.M. to 1:00 P.M. Between 7:00 A.M. and 8:00 A.M. Public utility crews will be loaded first. After they are loaded material will be released on a first come first serve basis.

Material will not be loaded on trucks, trailers or pick-ups without proper restraints to secure materials for public safety on the roadways. Warehouse will not supply straps or other restraints.

No additional cost to the Contractor will be allowed for failure to follow the limitations prescribed above which result in materials not being released from the warehouse. The Contractor shall verify the appropriateness quantity and type of all materials supplied by the City of Naperville. No additional compensation will be allowed for

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installation of inappropriate materials or type of materials supplied by the City of Naperville.

For additional types of material other than that which is issued for this project, contact Electrical Engineering Technician (Project Engineer) Paul Michalowski at (630) 305-5227 or (Senior Electrical Engineer) Larry Slate at (630) 420-6192. For general warehouse questions contact Terry Skala at (630) 420-4136.

Handling of Materials: Proper equipment, tools and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the prosecution of the various items of work. Pipe, fittings, vaults, manholes and other accessories shall at all times be handled with care to avoid damage. In loading and unloading the Contractor will follow the recommendations of the manufacturer. Under no circumstances will they be dropped or rolled off the truck.

The Contractor will carefully examine, inventory, count and document all materials immediately before accepting from the City or supplier and if any pipes or materials are found to be defective or a short, the Contractor will immediately notify the City of Naperville Project Engineer and the on-site Resident Engineer.

All pipes, fittings, manholes and other accessories shall be carefully lowered into the trench piece-by-piece in such manner as to prevent damage.

Clean the interior of conduit, manholes and fittings before laying and keep clean until the completed various items of work is ready for acceptance. Remove dirt, excavated materials or other foreign matter.

Excavation: Broken pavement, brush, stumps and roots, rubbish, trees and other above ground obstructions on the right-of-way that will interfere with construction will be removed from the site. Stones, boulders and solid rock from the excavation should be completely removed from the area and no stones will be used as backfill within two feet of the conduit line. All materials removed from the site will be deposited in approved landfill areas.

Preserve from damage surveying monuments, property pins, mail boxes, and similar items. If damaged or disturbed by construction operations, Contractor will pay for the cost of restoration by a registered land surveyor, as approved by the City/Engineer.

The Contractor will remove the surface materials only to such widths as will permit a trench to be excavated which will afford sufficient room for proper efficiency and proper construction. Where sidewalks, driveways, pavements and curb and gutter are encountered, care will be taken to protect such against fracture or disturbance beyond responsible working limits. Any damage will repair by the Contractor at no additional cost to the City of Naperville. All sidewalks cracked, bent, tiled, sunk, chipped or broken shall be replaced with an entire 5 feet wide by 5 feet long by 4 inch thick square, using expansion joints. This includes installation, 4 inch thick concrete removal, disposal and temporary patch with 6 inch thick bedding of CA-6.

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All street surfaces that are disturbed due to trenching and the disturbed edge is closer than 6 feet to the curb edge shall be removed and replaced per City pavement drawing is for the entire length of the trench at the Contractor's cost or at the direction of the Engineer. This includes installation, removal and disposal of all materials.

Where working space will permit, trenches may be excavated by machine, provided that by so doing, public and private improvements will not be subjected to an unreasonable amount of damage or nuisance. If however, excavation by machine methods cannot be made without materials damage being done to public and private improvements, hand excavation will be employed.

The Contractor is to take all risk as to the quality of the excavation, its condition as to the presence or absence of water, and all contingencies attending the various item or work.

The trench will be excavated to the alignment and depth required. The length of open trench will not exceed 100 feet from the forward cut to the completely back-filled trench nor will the same trench obstruct more than one street crossing at same time. The minimum cover over the duct bank will be three feet six inches (3'-6"). The trench will be completely backfilled to the last duct bank or conduit joint (not to exceed 10 feet of open trench) at the end of each day operations.

The trench width will be as indicated on the drawings to permit the duct bank or conduit to be laid, jointed, supported and concrete encased properly and the backfill to be placed and compacted properly. Vertical sides are required where the nature of the excavated material and depth of trench will permit.

When encountering boulders, large stones, rock or shale, such materials will be removed to provide a clearance of at least 6 inches below all parts of the duct bank or conduit or structures and to a clear width of at least 6 inches on each side. Where the trench is excavated in rock or shale, the 6- inch space below the duct bank, conduit or structures will be filled by hand with approved granular backfill (or other approved material) firmly compacted to form a cushion.

The trench will have a flat bottom conforming to the grades to which the duct bank is to be laid. The trench will be excavated to a depth of a minimum of 2 inches below the established grade line of the bottom of the duct bank and that space between duct bank (bottom of concrete encasement) and trench bottom will be filled with granular material as specified.

The duct bank will be laid upon granular material to have a bearing for its full length. Any part of the trench excavated below the grade will be corrected with approved granular material firmly compacted.

The Contractor will make all necessary arrangements for disposal areas for excess excavated materials and will pay all costs included in to securing permission for their use and will dispose of all surplus excavated material without cost to the Owner, other

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than as reflected in the prices bid. Stockpiling of excavated materials on-site will not be allowed overnight without approval of the Engineer.

When excavated material is suitable for backfill material, it will be stored in such a manner as to create a minimum of obstruction or hazard to traffic. The City of Naperville shall determine if the excavated material is suitable for backfill. Failure to receive approval requires the material shall be removed from the trench.

When excavated material is not suitable as backfill, it will be loaded directly onto trucks for removal from the site. No excess excavated material will be stored on any public property or right-of-way. Such material will be disposed of either at a properly licensed landfill or on such other private property as the Contractor may determine, subject to the consent of the Owner thereof, and the approval of all relevant governmental agencies. Notification of all disposal areas must be given to the Engineer prior to start of work by Contractor.

The Contractor will keep the trenches free from water during the progress of duct bank or conduit installation, and no conduit will be laid in water, nor will water come in contact with conduit connections. The Contractor will take such precautions as are necessary to comply with these provisions either by bailing or pumping, if necessary. The prevention of leakage will be considered of prime importance. All practicable precautions for preventing same will be insisted upon.

The Contractor is advised that stratified rock exists from 6'-0" to 15'-0" below grade and solid rock exists from 15'-0" to 30'-0" below grade. The Contractor will excavate in rock according to section 502 of the Standard Specifications for Rock Excavation for Structures.

Braced and Sheeted Trenches: Open-cut trenches will be sheeted, braced or otherwise constructed as required to protect the various item of work as determined by the Contractor. A sand box or trench shield may be used in lieu of sheeting. When close sheeting is used, it will be so driven as to prevent adjacent soil from entering the trench either below or through such sheeting.

Sheeting will be required by the City of Naperville for excavation within the pavement area or within ten (10) feet of the pavement edge, where the excavation lies below a one to one (1:1) slope line extended from the pavement edge.

Utilities: Every reasonable effort has been made to locate subsurface obstructions from available records, and such structures are shown on Plans. The Contractor will call the Joint Utility Locating Information for Excavations (J.U.L.I.E.) at Tel: 1 (800) 892-0123, prior to any excavation and other agencies required. The Contractor is advised that all agencies may not be a member of J.U.L.I.E. and the Contractor must contact all agencies concerning utility locations.

The contractor shall be solely responsible for exact location of and avoiding or relocating all existing underground utilities and shall determine the exact location of existing utilities and appurtenances thereof and other underground structures, in

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advance of the Work by prospecting, pot holing, by hand digging, no later than two (2) workdays prior to any scheduled excavation or 200 lineal feet in advance of such excavation, or trenching whichever is earlier to avoid delays and problems with duct bank or conduit alignment. No additional compensation will be paid for any delay due to locating or missed locates.

The Contractor will take all precautions against damage to existing utilities. However, in the event of a break in an existing water main, gas main, electrical facility, oil line, sewer, underground cable, etc., the Contractor will immediately notify the responsible official of the organization operating the utility interrupted and the Engineer. The Contractor will lend all possible assistance in restoring service and will assume all cost, charges, or claims connected with the interruption and repair of such damage.

The Contractor and crew shall remain on site until the service is restored or relieved by another Contractor's crew. The Contractor shall locate all damaged, obstructions by excavating to the top and bottom of each and every one.

In excavating trenches and laying the duct bank, conduit and manholes, all existing utilities, including water pipes, sewer pipes, gas pipes, oil lines, vault, poles, riser, electric transmission lines, conduits, telephone pole lines or conduits, T.V. cables, service connections from these utilities, etc., will be protected, supported and maintained in service and restored to the condition in which they were found.

The Contractor will pay for all expenses occurred for locating and supporting existing facilities as required for the construction of the duct bank and/or manholes. The City will not be responsible for delay due to locating utilities or the adjustment of the water main to pass around conflicts or obstructions, or the relocation of existing utilities.

The Contractor is advised energized overhead lines are in the work area. They will remain energized for the duration of the project. Contractor will work around lines and any costs incurred by doing so are included in the cost of the various items of work. The Contractor personnel shall be trained to work around underground cable or overhead conductor per O.S.H.A regulations.

Alignment and Grade: All duct bank and conduit will be located as shown on the Plans. The alignment and/or grade may be changed to pass around, over, or under obstructions encountered where the Engineer may deem this procedure to be practicable; such adjustments will be considered included in the cost of the various items of work.

The City and/or Engineer will provide the Contractor with the location of the proposed manholes, vaults, hand hole, wood pole and electric duct bank. These items will be located once, if required the Contractor will bear the full cost of any subsequent relocates. The location of the under bridge conduit support system will be as indicated on the Plans and no layout will be provided.

The Contractor shall have a registered land surveyor stake the right-of-way and structure locations and conduit alignment and follow the construction phase to be sure

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the equipment is installed within the right-of-way. The surveyor shall provide record drawings to the City of Naperville

TYPE "A" MANHOLE INSTALLATION

TYPE "E" MANHOLE INSTALLATION

TYPE "G" MANHOLE INSTALLATION

TYPE "X" MANHOLE INSTALLATION

The Contractor shall install City furnished electrical manholes in a prepared excavation to the line and grades as shown on the drawings, or as directed by the Engineer. The Contractor shall be responsible for but not limited to preparing the excavation, adjusting manhole location after potholing, over dig, assembly, security of site, potholing, layout, As-Builts, securing outages with 96 hour advance notice, all steel plates and fences and warning signs to secure site, all temporary work, clearing and grubbing, compacting backfill, removing trees and brush less than 6 inches in diameter, shoring, planking, bracing, and wales, grounding and testing, report findings of ground test, Install 60 feet counterpoise if required into manhole, removing pavement and all surface materials, training mule tape or # 12 copper THHN wire thru manhole and attaching to frame of manhole, restoring surface materials, shoring, sheeting, removing all excavated materials and debris off site, excavation, preparation of the excavation, install shoring and bracing materials as required per OSHA, dewatering, installing a 6" Coarse Aggregate Gradation CA-6 for bedding, modifying the manhole to accept existing and proposed conduits and counterpoise, encasement of conduit in concrete, making final conduit connection, verifying Installing duct positioning and section required in manhole with drawings provided, installing the manhole to final grade, adjusting collar(s), and frame and cover temporarily, adjusting frames and colors to final elevation, cleaning out manholes to a broom finish, aligning, fitting and leveling to the line and grades, final elevation, as shown on the drawings, finishing area around manhole to rough grade, providing survey services and Arborist services, or as directed by the Engineer.

In those locations where manholes are shown on the plan or directed by the Engineer to be placed in paved areas, CLSM shall be used as backfill around the manhole up to the sub-grade. The cost for the CLSM around and over excavated areas of the manhole shall be considered incidental to the manhole. In unpaved areas CA-6 shall be used as backfill around the manhole to the bottom of the black dirt.

All manhole locations require the contractor to dig 2 two test pits (City shall observe the work and concur with the dig.) of a sufficient depth, length, and width in 2 directions by crisscrossing thus forming an X to ensure the proposed manhole location will fit and be free of all obstructions or of sufficient size to accommodate the Manhole. The cost of providing the test pits and associated safety measures are included in the pricing. This work shall be done prior to ordering the Manhole. In the event the location is not suitable the contractor shall restore area to original condition at no cost to the city However, the next 2 test pits at a manhole location shall be paid by the city by machine aided digging pricing.

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The Contractor shall be responsible for scheduling delivery time and location with the City's supplier, and all equipment and labor associated with unloading the pre-cast concrete manhole sections. The manholes will come in two (2) sections (top and bottom) with openings provided to accommodate the 6" diameter PVC conduit as shown in the Detail Drawings at the end of this Section. Contractor shall lift manhole sections with slings only. Lifting from pulling irons will not be allowed. The Contractor shall verify all dimensions and condition of the manhole supplied. All discrepancies shall be reported to the Engineer prior to installation.

The Contractor shall be responsible for installing up to (10) ten concrete adjusting collars and two (2) cast iron frame and cover, which are to be supplied with each manhole. The City will supply the adjusting collars, cast iron frames and covers and butyl mastic. It shall be the responsibility of the Contractor to load and transport the cast iron frames and covers and adjusting collars to the site from the City of Naperville storage yard.

The Contractor shall install a complete grounding system and test grounds for each manhole installed and / or as shown on drawings. See drawing for dimensions and weights

Manholes may be buoyant without backfill and overburden. The Contractor shall adequately ballast the manhole to prevent uplifting prior to the backfilling of the excavation.

If water is encountered, pumps of sufficient capacity shall furnished and be maintained to handle the flow at the site and shall be in constantly attended operation on a 24-hour basis until their operation can be safely halted, when dewatering, close observation shall be maintained to detect any settlement (Contractor to making settlement readings) or displacement of the embankment, surrounding area or pavement. Providing additional bracing, supporting and manpower to complete the job is incidental to the work.

This work shall be measured and paid for at the contract unit price per each for ELECTRICAL MANHOLES, of the type specified in place, with the installation of 1 to 5 adjusting rings as required plus 1 sets of frame and lid as indicated, which payment will be full compensation for all excavation, and Manhole Installation, disposal of materials off-site, dewatering, installing complete with concrete tops, frames and covers, grounds and testing, adjusting rings, sumps with grates, grounding system, bedding, CLSM backfill, CA-6 backfill, fittings, materials, tools, labor, equipment and incidentals necessary to complete this work as specified for a complete job.

See contract drawings for City of Naperville standard.

Method of Measurement: This work will be measured per each location where a Manhole is installed.

Basis of Payment: This work shall be paid for at the contract unit price, per each for MANHOLE ASSEMBLY, of the size indicated on the plans. This work includes: all

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conduits, fencing, bends, pumping, tunneling, tree and brush protection and /or replacement, hand digging, stone/rock removal, leveling, adjusting frame and covers, cleaning inside of manhole to broom finish, and associated work to install the MANHOLE at the locations shown on the drawings. .

RESTORATION WORK

Description: This work shall consist of restoration work of the project site not otherwise covered by specific items. The Contractor shall provide landscaping and tree work performed by a registered certified landscaper. The Restoration work shall include all landscaping work including transplanting, temporary work, removing, installing, grading, re-grading, hauling, unloading, storing, placing, hand digging, clearing, grubbing, pruning, trimming, shaping, planting tree(s) and evergreen(s), removing, transplanting, and planting bushes, trees, and plants, root and/or bush pruning, raking, watering trees, gardens, flowers, bushes and evergreens; fences of all sizes, excavated materials shall be removed off-site, dog fences, security systems, alarms, sprinkler systems cable TV phone cables, black dirt, sod, re-sod, removing and reinstalling decorative stone and modular walls, cobbles, removing and reinstalling traffic signals and street light circuits, and any other landscape or surface features.

The Contractor shall make a careful examination of the location, field traverse the entire route of the project, observe and note existing site conditions and nature of the proposed work, as well as the drawings and specifications, and all other Contract Documents in connection with the work and services to be performed under this Contract.

Furthermore, he shall make a thorough investigation of potential interference and difficulties he may encounter such as, underground utilities, trees, fences, gardens, shrubs, out buildings, landscaping, but not limited to, road conditions or boulders and debris along fence lines for the proper and complete execution of all work specified herein and/or shown or called for on the drawings.

Lack of knowledge of existing conditions or foreseeable conditions that will create difficulties or encumbrances in the execution of the work shall not be acceptable as an excuse for any failure on the part of the Contractor to fulfill in every detail all of the requirements of the restoration. Furthermore, a lack of knowledge will not be accepted as basis for any claim whatsoever for additional or extra compensation.

The Contractor shall perform all labor plus furnish and install all materials to restore all of the City of Naperville's rights of way and easements to the original or better condition. The Contractor is advised the property owner(s) shall be contacted and consulted on each and every area of landscaping to be performed by the Contractor. An agreement by the property owner(s) as to be quality and quantity of the work is essential for acceptance of the restoration by the City of Naperville

The Contractor is advised the property owner(s) must be satisfied with all aspects of the restoration. The Contractor shall start all area's that have been disrupted, dug on,

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compacted, or other wise used by the Contractor's activity. All restoration shall begin within three weeks after the initial entry onto the customers' property. The Contractor shall make every effort to finish each parcel of property in an orderly and continuous effort to the finish. Large lapses of time from starting to finish are not acceptable. The Contractor shall be requested to increase the work force at no cost to speed up the restoration process when the restoration process takes longer than 6 weeks at any location.

The work area shall be kept clean and good housekeeping is the rule of the day. The storing stock piling or leaving materials in the work area over night is not acceptable. The equipment shall be returned to the staging areas at the end of each day. All personal vehicles shall not be parked on any of the City of Naperville streets.

The Contractor shall install remove and transplant bushes, trees and other vegetation in areas that have been dug, excavated disrupted and damaged or worn by use. The cost of such activity shall be included in this item.

The Landscaping period is usually April 1 to November 1. The Contractor shall finish all landscaping started in the work year by November 1 of the year started or sooner.

The Contractor shall install only sod and 6 inches of black dirt when green areas, grass areas of all types, and/or dirt areas have been dug, excavated, disrupted, damaged or worn by use. All landscaping shall be furnished, installed, rolled, and supplied and applied with sufficient quantities of water and fertilizer to promote growth.

Warranty provisions shall be in accordance with the Standard Specifications for the specific restoration item installed.

See contract drawings for City of Naperville for additional information.

Method of Measurement: The Contractor shall provide a lump sum that is the total cost of all landscaping and restoration of the City of Naperville's rights of ways and easements, which is to be done and required but not covered under any another price item or is covered by a price item but not in the quantities necessary for a complete the job in place. This lump sum includes, but not limited to, all labor, transportation, materials, hauling, loading, unloading, placing, installing, removing, transferring, temporary work of all types, tools, plant materials of all types, disposal of all materials off-site.

Basis of Payment: This work will be paid for at the contract price, Lump Sum, for RESTORATION WORK and shall include all labor, materials, consumables, transportation equipment, permits, and incidentals required to perform the work for a complete job.

UNDER BRIDGE CONDUIT SYSTEM

This work will consist of installing an under bridge conduit support system as shown on the Plans or as directed by the Engineer. Work under this item will include, but are not

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limited to: furnishing and installing inserts; PVC and steel conduit; couplings; male and female adapters for steel conduit; concrete encasement for steel conduit; hanger assemblies; expansion joints; stainless steel straps; angle braces, threaded rod, spacers, and all nuts, bolts, washers, connectors, and welding of stain less steel strap and/or braces. Adjustable braces stop joint, 5 degree coupling, and pre-fitting all materials.

Materials: The Contractor will install, fabricate, form, assemble, drill, trim, grind, bore and chamfer holes as required, stainless steel weld bracing, adjust, align, modify, level and cut all materials as required for complete installation of conduit under the bridge. (1 conduit high, 6 conduits wide) See City of Naperville **Electric Drawings**.

All materials are furnished and installed by the Contractor. Condux Corporation manufactures all inserts and insert-nuts. (Ridged or swivel) The Condux Corporation of Mankato, Minnesota is the approved supplier of all bridge materials except 10 foot straight galvanized steel ridged conduits. Material substitutions will be allowed only with approval of the City of Naperville, DPU-E. All steel 6" X 10' long rigid steel with couplings is supplied by the Contractor. Contractor shall supply all steel to schedule 40 PVC couplings.

All PVC conduit and bends used on the job will conform to the following: DPU-E Code 285-100-00070 Six (6) inch Schedule 40 heavy wall PVC conduit, supplied in 10' lengths with one belled end. Conduit must comply with UL standards 651 and NEMA TC2-1990 and must be shown on each length of conduit. Carlon 4907, J-M Manufacturing Co. Inc. 40600, Cantex A52GA12, National 333706020 or DPU-E approved equal. All steel except for the inserts and all rods are 316 Stainless Steel. Contractor shall have certified welders to perform stainless steel welding on braces for under bridge support.

Construction Requirements: The conduit run will be supported by inserts installed by the Contractor in the quantities and locations shown on the Plans. The Contractor will install temperature expansion couplings as shown on City of Naperville Electric Drawing. The coupling will be set according to the chart found on the same sheet.

The Contractor will be responsible for field verification of all frame member and diaphragm clearances prior to beginning installation. The Contractor will adjust conduit elevations and/or alignment to avoid any conflict. Under no circumstances may the bottom of the Duct Hanger Assemblies extend beneath Low Steel Elevation. Prior to installing, hanger assemblies will be pre-assembled to be ensured all pieces fit and meet clearances. Any adjustments necessary or as directed by the Engineer will be done at no additional cost.

All ¾" bolts will be torque to 190 feet/pounds. All threaded rod ends will be preened, center punched or spot-welded to prevent nut removal. Cut rod even with nut and above low steel.

The Contractor will stagger all PVC joints under the bridge. Bends under the bridge deck will be Schedule 40 PVC (field bend by hot box or pre-molded).

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The section weight per feet of hanger, schedule 40 PVC conduits, nuts, steel braces, spacers, threaded rods and tubing is 24 lbs/foot without cable, with cable it is 120 lbs/foot.

The Contractor will install all materials without entering, leaving or dropping any materials into the river. Fall protection will be provided by the Contractor and is considered included in the cost of this item.

Prior to acceptance, each conduit will be cleaned and tested by pulling a mandrel of appropriate size through the duct. Mandrel sizing will be in accordance with Section 31-1.11 of the Standard Specification for Water and Sewer Main Construction in Illinois. The Contractor will leave the 1/8" diameter nylon pulling rope or #12 copper THHN wire in each of the conduits. The testing and pulling of the mandrel will be done in the presence of the Engineer. Any duct found to be defective or blocked must be cleaned or repaired and re-tested to the satisfaction of the Engineer at the Contractor's expense prior to acceptance.

Upon the completion of the conduit assembly, the length of steel conduit beyond the bridge abutments will be encased in concrete the full length plus 10 feet and width of the trench from three (3) inches below the bottom of the lowest conduit to seven (7) inches above the top conduit and three (3) inches from the side of the conduit. The above limits will be as modified in the Plans for proper clearance to the abutment and approach pavement. Under no circumstances may the concrete encasement of the duct bank impede or prohibit the proper motion of the bridge deck or the approach pavement. The concrete encasement will follow the applicable provisions for "Conduit in Trench" as specified elsewhere herein.

See contract plans, City of Naperville specifications, for additional information.

CONSTRUCTION LAYOUT

Description: This work shall be performed in accordance with Check Sheet #10 of the IDOT Supplemental Specifications and Recurring Special Provisions except as herein noted.

The Contractor will be required to furnish and place construction layout stakes for this project. The Contractor shall establish a referenced centerline of survey and establish benchmarks along the line of the improvement outside construction limits. Locating and referencing the centerline of survey consists of locating and referencing control points such as point of curvature, points of right of way lines, property corners, or of tangent and sufficient points on tangent to provide a line of sight. Control points, center line and benchmarks set by the Contractor shall be identified in the field with documentation and submitted to the City of Naperville prior to proceeding with construction.

The Contractor shall provide competent field forces directed by a Professional Land Surveyor or Registered Professional Engineer, and shall set all additional stakes for

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this project, lines and any other horizontal or vertical controls, including supplementary benchmarks, necessary to secure a correct layout of the work.

The Contractor shall be responsible for having the finished work substantially 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 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 benchmarks, and shall have them reset at his expense when any are damaged, lost, displaced or removed.

See contract plans, City of Naperville specifications, for additional information.

All vandalism or damage of any kind shall be cause for replacement at Contractor's cost.

All conduit lengths shall be measured to the tenths of a foot. The Contractor is responsible for installing all duct sections and maintaining all construction activities inside the limits of the City of Naperville's right of way. For conduits located within roadways, the Contractor shall use the dedicated 66 and 80-foot or 100 foot road right of way. All lot line work shall use the recorded easements. These easements are shown on the easement maps provided; these maps are approximate locations of recorded easements taken from records in file. Records filed in the county shall resolve all discrepancies. The information shall be obtained and interpreted by the Surveyor for the Contractor and reviewed by the City of Naperville

The Contractor shall obtain and direct the services of a land surveying company to measure the installation of the duct bank by the open cut method and field document the installation of the open cut method or including vaults, and manholes. The surveyor is required to establish the limits of the rights of way, limits of the easements, property lines, center of duct run, with labeled stakes every 50 feet as the route shown on drawings provided. Wooden stakes shall be driven at a minimum of 50-foot intervals and /or at a sufficient number of additional locations to allow the Contractor a construction line and grade to follow for installation of the conduit and stay within the limits of the right-of-way.

The surveyor shall record the location of the new duct as being installed and measure widths, depths and lengths of trenches, trench profiles, manholes, and switch gear vaults, with elevations and prepare profile of trench bottom with stationing, offsets angles and monitor the progress of the work to ensure the conduit duct bank stays within limits of the rights of way and the conduit run does not exceed 235 degrees of bends in 750 feet. All fences, monuments curb and gutter and obstructions shall be identified and recorded showing all measurements to the new duct and relative position on the right of way.

The surveyor shall measure on a straight line, point to point on a plan view. The surveyor shall measure, identify, and record all lengths, to the nearest tenth of an inch, of conduit installed from manholes to switch gear vault to stubs, vault, all road

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crossings and face of manhole to face of manhole, switch gears vault to manhole and etc. All vaults, and manholes shall be center and perimeter staked to allow the Contractor to install the vault and/or manhole to allow the installation of the new conduit directly into the vault. All manholes are measured from face of manhole to face of manhole. The surveyor shall mark plans view drawing(s) and identify all conduit and steel bends locations with type, and angle.

See contract plans, City of Naperville specifications, for additional information.

2 WAY 3" PVC DUCT BANK 1 HIGH BY 2 WIDE

2 WAY 6" PVC DUCT BANK 1 HIGH BY 2 WIDE

4 WAY 2 - 3" & 2 - 6" PVC DUCT BANK 2 HIGH BY 2 WIDE

6 WAY 6" PVC DUCT BANK 2 HIGH BY 3 WIDE

8 WAY 2 - 3" & 6 - 6" PVC DUCT BANK 3 HIGH BY 3 WIDE

8 WAY 8 - 6" PVC DUCT BANK 3 HIGH BY 3 WIDE

9 WAY 9 - 6" PVC DUCT BANK 3 HIGH BY 3 WIDE

9 WAY 7 - 6" & 2- 3" PVC DUCT BANK 2 HIGH BY 7 WIDE

10 WAY 8- 6" & 2-3" PVC DUCT BANK 4 HIGH BY 3 WIDE

Description: This work shall be performed in accordance with Section 810 of the IDOT Standard Specifications except as herein modified. This work shall consist of installing 3-inch, or 6-inch Schedule 40 PVC conduit assembled into duct bank systems of the type and size specified herein and as noted in the Plans.

The work includes but is not limited to assembly of ductbanks in the above configurations, clearing and grubbing, transplanting bushes and shrubs, tree protection, removing the street base, saw cutting, root pruning, temporary work, potholing by hand or with vacuum truck or hand digging, removing all excavated materials and debris off site, excavation of the trench, shoring and bracing materials as required per OSHA, line and grade, loading and transporting the PVC conduit from the City of Naperville storage locations, installing conduit bedding, installing the PVC conduit, base spacers, intermediate spacers, connection to the existing or new manholes, connecting to existing conduit runs, and splice boxes, handholes, pedestals, and/or vaults, connect to PVC conduit or steel conduit (adapter connectors for steel to plastic, steel to HDPE or plastic to HDPE supplied and installed with 4 foot long concrete encasement around duct bank by the Contractor), excavating to find existing conduit runs and connecting, de-watering of the trench, testing and protection. The trench shall be excavated to the neat lines, width and depth as shown as sections on the plans or as directed by the Engineer.

The conduit duct bank system shall be assembled in to 1-WAY (1High by 1 Wide), 2-WAY (1 High by 2 Wide), 4-WAY (2High by 2 Wide), 5-WAY (2 High by 3 Wide), and 6-WAY (3High by 2 Wide) 6-WAY (2High by 3 Wide), 7-WAY (2 High by 3 Wide), 8- WAY (3 High by 3 Wide), 9-WAY (3 High by 3 Wide), 10 -WAY (4High by 3 Wide), 12- WAY (5 High by 3 Wide), 13- WAY (5High by 3 Wide), 14-Way (5 High by 3 Wide) using 3-inch, or 6-inch Schedule 40 PVC or combinations of 3-inch, or 6-inch PVC conduit material. See City of Naperville C30-1900 for details.

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Materials supplied by the City will include 3-inch, and 6-inch PVC Schedule 40 pipe, conduit, bends, steel bends, fittings, plugs, couplings, intermediate spacers, warning tape, pull rope or mule tape, #12 THHN copper wire, summer cement (slow curing), marker balls and plugs. Materials shall be loaded, transported and deposited by the contractor from City storage areas to the site. Materials supplied by the Contractor are Mandrels of various sizes, plastic ties to hold 3", and 6 inch conduit in position and materials to hold duct from floating.

The 3-inch, and 6-inch diameter heavy wall Schedule 40 PVC conduits (20 foot lengths) shall be installed in a prepared trench on a 2" level bed of fine aggregate meeting the gradation requirements of FA-2 or lime stone fines to the lines and grades as shown on the Plans or as directed by the Engineer. The conduit route shall be laid out and adjusted to go over or under obstructions, conduit shall be measured, cut, aligned, straightened, adjusted, leveled, pieced together, conduit ends prepared for assembly, guided, secured, connected, assembled per the Plans, and installed on base and intermediate spacers at 5-foot spacing, so that a 2-inch separation is maintained between the conduits and 3 inches on the sides of the duct package. Additionally, conduits shall be placed so the joints are staggered where no couplings are in line with adjacent couplings. The 3-inch conduit is to be tied with plastic ties to the spacers.

During installation, conduit joints shall be cleaned with Stoddard solvent, methyl ethyl ketene, or acetone, liberally coated with solvent cement and promptly engaged with the previously installed conduit. The joint shall be turned 90 degrees to dispel air and evenly distribute the solvent cement over the contact surfaces being joined. Final assembly of the joint should not exceed 60 seconds. The Contractor shall open no more than 100-foot headway to allow for smooth grade changes of the conduit system to miss obstructions.

See contract drawings for City of Naperville standard details.

Upon the completion of the conduit assembly, the duct bank neat line shall be encased the full width of the trench from the invert of the bottom conduit to four (4) inches above the crown of the top conduit with FA-2, or concrete as specified by cross sections on the plans or as directed by the Engineer. The excavation shall then be backfilled in lifts with compacted, spoil excavation clean with no rocks, controlled low-strength materials (CLSM) or trench backfill (CA-6) as shown in the Plans, stated herein, or as directed by the Engineer. Backfilling will be paid for separately as EARTH EXCAVATION, (SPECIAL), CONTROLLED LOW-STRENGTH MATERIAL, FA-2 ENCASEMENT or TRENCH BACKFILL, CA-6.

During the backfilling of the duct bank system, a yellow warning tape shall be installed 1.0' above the crown of the top conduit. The warning tape shall be installed with the words "CAUTION, DANGER ELECTRIC" facing up. In areas where the proposed PVC duct bank is to be placed in the street, the backfilling operations shall extend from the top of the encasement to 12 inches below existing pavement grade. In areas where the duct bank is not to be placed in the street, the backfilling operations shall extend from the top of the encasement to the sub-grade elevation to allow for 6-inches of

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black dirt and sod or 4-inch sidewalk with 6-inches of CA6 for final restoration of the trench area.

Contractor shall note that for ducts that are to be concrete encased, they should first be encased and cured a sufficient amount of time prior to the backfilling with aggregate or other backfill material.

EXCAVATIONS MAY NOT BE LEFT UNATTENDED. ALL EXCAVATIONS SHALL BE EITHER BACKFILLED AT THE END OF EACH DAYS WORK, OR COVERED WITH STEEL PLATES AND SECURED OF SUFFICIENT STRENGTH AND QUANTITY TO PROVIDE ACCESS TO ALL ROADWAYS AND/OR DRIVEWAYS AND OR PEDESTRIAN TRAFFIC.

The Contractor shall restore the Parkway, Public Right of Way, or easement area, where trenched for conduit/duct bank installation, to an elevation, grade, and slope equal to that at the time of commencement of the project. All disturbed turf areas and grass areas shall receive a minimum of 6" of topsoil and salt tolerant sod or seeding as shown on the plans or as directed by the Engineer. Topsoil in agricultural and parkway areas shall be restored to the depth existing prior to excavation. Topsoil may be utilized from material the Contractor has stockpiled from this project or hauled on-site at the Contractor's option if deemed suitable by the City.

The duct bank Trench area enclosed by the neat lines and for 4 feet each side of the neat trench line and the over the length of the trench shall be restored by the Contractor, to be paid for separately as SODDING, SPECIAL and SEEDING, CLASS 1A (SPECIAL). Any restoration work necessary outside of the duct bank installation work area described above shall be restored by the Contractor at no additional cost.

Materials and methods for this item shall conform to the requirements of Section 211 and Article 1081.05 of the Standard Specifications. Surplus materials shall be disposed of at an approved legal site. The cost of disposal of surplus and excavated materials shall be incidental to the PVC Ducts.

The Contractor shall provide tree protection and root pruning per City specification and follow instructions on trees to be saved or removed or planted as shown on the plans.

If water is encountered, pumps of sufficient capacity to handle the flow shall be maintained at the site and shall be constantly attended operation on a 24-hour basis until their operation can be safely halted. When dewatering, the Contractor shall provide close observation and this requirement shall be maintained to detect any settlement, sagging or displacement of the embankment. Cost for dewatering is considered incidental to this item.

All PVC conduit used on the job shall conform to the following: DPU-E Code 285-100-00070 Six (6) inch, and three (3) inch Schedule 40 heavy wall PVC conduit, supplied in 20' lengths with one belled end. Conduit must comply with UL standards 651 and NEMA TC2-1990 and must be shown on each length of conduit. Carlon 49017, J-M

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Manufacturing Co. Inc. 40600, Cantex A52GA12, National 333706020 or DPU-E evaluated equivalent.

The Contractor is advised the conduit run is being installed in a curvilinear street and shall require more attention to laying out a conduit run in a continuous curve. The curves shall require more detail in installing bends and providing additional bracing of the conduit run and is incidental to the work. All initial line and grades by the City of Naperville are supplied once. Any and all returns are at the Contractor's cost.

The Contractor is required to work above, next to, or under energized circuits. The Circuits shall not be de-energized unless the Contractor makes a request to do so. The request will be reviewed and if the system requirement for energy is such that the line cannot be de-energized the Contractor shall work with the line energized and follow all OSHA regulations. The Contractor shall request all lines out of service 3 days in advance. Every day, once in the morning and once at night, while the line is out of service, the Contractor shall contact the control room of the City of Naperville or the City inspector on site to confirm the status of the line. The same person each day is to contact the control room and City Inspector. The Contractor shall provide a 24 hour cell phone number to be called in the event of an electrical line status change.

Should the Contractor exceed the specified trench width, and he exceeds the allowable volumes of encasement per lineal foot and neat lines of the duct bank, he shall consider any additional material, labor or equipment incidental. The City reserves the right to reject requests for over-excavation.

Each installed conduit shall be cleaned and tested by the contractor by pulling a mandrel of appropriate size through the duct. Mandrel sizing shall be in accordance with Section 31-1.11 of the Standard Specifications for Water and Sewer Main Construction in Illinois.

Method of Measurement: The installed PVC Duct Bank to the configuration as shown on the drawings and shall be measured for payment in place in feet to the neat lines in place along its center line in a straight line point to point from outside edge of manhole to outside edge of manhole, or outside edge of the hand hole to the outside edge of the handhold or from the outside edge of the switch gear to the edge of a pole or outside edge of a switch gear to outside edge of another switchgear, or to the PVC Duct Bank stub installed in casing or open trench.

Basis of Payment: This work shall be visually observed by the Engineer and shall be paid for at the contract unit price per foot, for PVC DUCT BANK of the number, size and configuration of conduit as specified on the drawings, preparing the trench, assembly of conduit into a package and installing in trench, , which price shall be considered payment in full for completing this work in place by the Open Cut Method to the neat lines and locations as specified in the drawings including; the excavation of the trench materials, connecting to new and existing duct, connecting to the new and existing manholes, pedestals, new and existing vaults, 2 inch bedding, layout work of duct bank for proper fit, alignment, line and grade, headway, level, final profile of

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trench, potholing, tree protection, root pruning assembly of the ducts into duct banks of various configurations, number of ducts, size of ducts, offsite material disposal, loading and transporting the PVC conduit from the City of Naperville storage locations, installing conduit bedding, installing the PVC conduit, installing 3", and 6" steel bends, connecting to HDPE conduit, connectors (material and labor to hook up to Steel- Plus concrete encasement) top, bottom and intermediate spacer, installing transpositions, and for all labor, tools, bedding materials, equipment and incidental items necessary to complete this work as specified. Conduit of id 6" I.D, 3"ID of, PVC Schedule 40 in 20' lengths and 3inch, and 6inch steel or PVC bends shall be supplied by the City of Naperville.

Road restoration, sidewalk restoration, curb and gutter restoration, driveway restoration, bike path restoration, concrete pavement, Trench Backfill, CA-6, Concrete Encasement, FA-2 Encasement, Controlled Low-Strength Material, Earth Excavation (Special), and traffic control shall all be paid separately.

CONDUIT IN TRENCH, TRANSITION AND TRANSPOSING

Description: This work will consist of installing at each location in the Bridge approach area's concrete encased 6-6" diameter schedule 40 PVC, and 6 inch steel ridged galvanized steel pipe with (steel bends) electric duct bank for a minimum 50 feet long transition and transposing length. See specification drawings for configurations.

The type and size specified herein is shown on the Plans at each location and as directed by the Engineer. The work under this item will include, but not be limited to, clearing and grubbing; excavation; furnishing, wood forming, wood framing, backfilling, aligning, supporting, cutting, pre-fitting, grading, aligning, adjusting, all temporary work, and leveling the conduit, positioning the conduit, and placing conduit in a trench bedding; conduit bending; use of a hot box for bends, connecting to steel conduit, installing conduit; top, bottom, and intermediate spacers and concrete encasement and backfilling. .

The Contractor will transpose and transition the conduits at each locations in the Bridge per drawings (2 locations are required).

The Contractor shall transition the conduit run, a 6-Way (1 High by 6 Wide) conduit run on 10 inch spacing thru the abutment wall to a 6-Way (1 High by 6 Wide) conduit run on 8 inch spacing. See drawings for configurations. At each of the locations this work includes moving the conduits from left to right and from up to down using varying spacing requirements

The Contractor shall transpose the 6-Way conduit run from 1X6 (1 High by 6 Wide) to a 6 WAY conduit run 2X3(2 High by 3 Wide). See drawings for configurations. At each of the locations this work includes moving the conduits from left to right and from up to down using varying spacing requirements

The Contractor will use a hot box to form PVC bends or supply and install manufactured steel rigid pipe or bends or schedule 40 PVC.

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NOTE: The Contractor will furnish all forms, form materials, spacers, concrete and plastic ties for the transition length. Spacers may be manufactured or made on the job site. All spacers are not to be made of organic materials. All spacers shall be approved prior to installation.

See contract drawings for City of Naperville standard.

Method of Measurement: This work shall be measured on a per location basis, each, and shall be the total cost of the entire work to perform the transition and transposition of the conduit as required for a complete job. This unit cost of each location includes, but not limited to, all labor, tools, generation, transportation, materials, hauling, loading, unloading, placing, installing, removing, disposal of all materials off-site, a one year guarantee, measuring, fitting, coordination of all trades, down time to allow for decking work, curing time of concrete, scheduling conflicts, electrical system outages, traffic control, working over the DuPage River, and under energized 12kV distribution lines.

Basis of Payment: This work will be paid for at the contract price per each, for CONDUIT IN TRENCH, TRANSITION AND TRANSPOSING and shall include all labor, materials, equipment transportation, consumables, and incidentals required to perform the work for a complete job.

See contract plans, City of Naperville specifications, for additional information.

CONCRETE ENCASEMENT

Description: This work shall consist of furnishing and installing the Concrete Encasement of the PVC Duct Bank System of the size and type specified herein or as noted on the plans and shall include, but is not limited to, providing concrete as specified herein and placing and vibrating the concrete in the trench.

Concrete Encasement shall be used to fill under, between and over the duct bank system to the neat lines and full width of the trench in locations specified on the plans or as directed by the Engineer. When placing the concrete, care shall be taken to completely encase the duct bank system with the concrete meeting the mix design requirements as specified herein. After being placed, the concrete shall be vibrated by mechanical equipment to eliminate voids and ensure complete encasement of the conduits. Care shall be taken when vibrating the concrete as to not damage the PVC conduit, or separate the joints or couplings. The Duct Bank shall be held in place to prevent floating of the duct system.

The concrete shall be Class SI, as specified in Article 1020.04. The concrete shall have a slump of three (4) inches \pm one (1) inch with a minimum compressive strength of 2000 psi at 28 days and an air entrainment between 5% and 8% by volume. The contractor may submit a mix design utilizing pea gravel (CA-14) for the Engineers approval.

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Method of Measurement: Placing of the Concrete Encasement shall be visually observed by the City and measured for payment in place to the neat lines and full width specified as shown on the typical trench details from 3" below the invert of the bottom conduit to 4" above the crown of the top conduit less the area of the conduits or as directed by the Engineer. The table below indicates the allowable volume for payment, (cubic yards per lineal foot) for the various sizes of duct bank.

<u>TYPICAL DUCT BANK SIZE ENCASEMENT</u>	<u>CUBIC YARDS CONCRETE PER LINEAL FOOT (PLACED)</u>
<u>2 WAY- 3" PVC DUCT BANK - 1 HIGH BY 2 WIDE</u>	<u>.0197</u>
<u>2 WAY- 6" PVC DUCT BANK - 1 HIGH BY 2 WIDE</u>	<u>.0557</u>
<u>4 WAY- 2 - 3" & 2 - 6" PVC DUCT BANK - 2 HIGH BY 2 WIDE</u>	<u>.0800</u>
<u>6 WAY- 6" PVC DUCT BANK - 2 HIGH BY 3 WIDE</u>	<u>.1090</u>
<u>8 WAY- 2 - 3" & 6 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE</u>	<u>.1420</u>
<u>8 WAY- 8 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE</u>	<u>.1530</u>
<u>9 WAY- 9 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE</u>	<u>.1440</u>
<u>9 WAY- 7 - 6" & 2- 3" PVC DUCT BANK - 2 HIGH BY 7 WIDE</u>	<u>.2105</u>
<u>10 WAY- 8- 6" & 2-3" PVC DUCT BANK - 4 HIGH BY 3 WIDE</u>	<u>.1860</u>

See contract plans, City of Naperville specifications, for additional information.

Concrete may be used as backfill material when directed to do so by the Engineer.

No additional compensation will be allowed the Contractor should trench width be exceeded or the Contractor exceeds the allowable volumes of encasement material as noted above.

Contractor shall anchor the duct to prohibit the ducts from floating when backfilling with concrete encasement.

Basis of Payment: This work will be paid for at the contract unit price per cubic yard placed for CONCRETE ENCASMENT, which shall be full compensation for all materials, labor, equipment and appurtenances necessary for a complete item.

FA-2 ENCASEMENT

Description: This work shall consist of furnishing and installing FA-2 ENCASEMENT of the PVC Duct Bank system of the size and type specified herein or as noted on the Plans and shall include but not be limited to providing fine aggregate meeting the IDOT gradation of FA-2 and placing and compacting the aggregate in the trench.

FA-2 ENCASEMENT shall be used to fill under, between and 4 inches over the top duct of the duct bank system to the neat lines and full width of the trench in locations specified on the engineering drawings or as directed by the Engineer. Care shall be taken to completely encase the duct bank system with fine aggregate meeting the gradation requirements of FA-2 as specified in Article 1003.04 of the Standard Specifications in lifts no greater than 8". After the aggregate has been placed the

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aggregate shall be tamped with a mechanical plate to eliminate voids. Care shall be taken when compacting aggregate to not damage the PVC conduit, or separate the joints or couplings.

The Contractor shall utilize Method I (mechanical compaction) as specified in Article 542.04, Backfilling, of the Standard Specifications. No additional compensation shall be made for jetting. FA-2 may be used as backfill material when directed to do so by the Engineer.

Method of Measurement: FA-2 ENCASEMENT shall be measured for payment in place. Placing FA-2 Encasement shall be visually observed by the City and measured for payment in place to the neat lines and full width specified as shown on the typical trench details from 2" below the invert of the bottom conduit to 4" above the crown of the top conduit less the area of the conduits or as directed by the Engineer. The table below indicates the allowable volume for payment, (cubic yards per lineal foot) for the various sizes of duct bank.

<u>TYPICAL DUCT BANK SIZE</u>	<u>CUBIC YARDS OF FA-2 PER LINEAL FOOT (COMPACTED)</u>
<u>2 WAY- 3" PVC DUCT BANK - 1 HIGH BY 2 WIDE</u>	<u>.0197</u>
<u>2 WAY- 6" PVC DUCT BANK - 1 HIGH BY 2 WIDE</u>	<u>.0557</u>
<u>4 WAY- 2 - 3" & 2 - 6" PVC DUCT BANK - 2 HIGH BY 2 WIDE</u>	<u>.0800</u>
<u>6 WAY- 6" PVC DUCT BANK - 2 HIGH BY 3 WIDE</u>	<u>.1090</u>
<u>8 WAY- 2 - 3" & 6 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE</u>	<u>.1420</u>
<u>8 WAY- 8 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE</u>	<u>.1530</u>
<u>9 WAY- 9 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE</u>	<u>.1440</u>
<u>9 WAY- 7 - 6" & 2 - 3" PVC DUCT BANK - 2 HIGH BY 7 WIDE</u>	<u>.2105</u>
<u>10 WAY- 8 - 6" & 2 - 3" PVC DUCT BANK - 4 HIGH BY 3 WIDE</u>	<u>.1860</u>

See contract plans, City of Naperville specifications, for additional information.

No additional compensation will be allowed the Contractor should the trench width be exceeded or the Contractor exceed the allowable volumes of encasement material as noted above.

Basis of Payment: This item of work shall pay for at the contract unit price, per cubic yard placed, for FA-2 ENCASEMENT.

TRENCH BACKFILL, CA-6

Description: This work shall consist of backfilling and compacting duct bank with a coarse aggregate material through all pavement areas at the locations shown on the plans or as directed by the Engineer.

The aggregate shall conform to the requirements of Article 1004.01 of the Standard Specifications and the following specific requirements:

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- a. Description: - The course aggregate shall be gravel, crushed gravel, crushed stone, crushed concrete, crushed slag or crushed sandstone.
- b. Quality: - The coarse aggregate shall be Class-C quality or better.
- c. Gradation: - The course aggregate gradation shall be used as follows:

For the trench backfill in pavement areas - Gradation CA-6

- i. Paved Areas: - As soon as the condition of the concrete will permit, the entire width of the trench shall be backfilled to the neat lines and with moist coarse aggregate meeting the gradation specified. The aggregate shall be placed longitudinally along the duct. The Contractor shall establish that the compressive strength of the concrete is sufficient to bear the weight of men and equipment prior to commencing the backfilling operation. Aggregate material shall be placed in 8-inch layers, loose measurement and compacted to the satisfaction of the Engineer by ramming or tamping the tools approved by the Engineer.

The backfill shall continue to be placed and compacted as specified to the top of sub-grade for future or proposed surfaces and/or shall be brought to a level even with the existing pavement to act as a temporary surface until the permanent surface can be restored. Removal of any stone to provide proper sub-base elevation for temporary patches and permanent pavement will be incidental to this item. The backfill for trenches and excavation made in the sub-grade of the existing or proposed improvement, and for all trenches outside of the sub-grade where the inner edge of the trench is within 4 feet of the edge of the existing or proposed pavement, curb, gutter, curb and gutter, or sidewalk, shall be made with trench backfill material, unless the excavated material meets the requirements of the course aggregate specified.

All backfill material up to a height of 12 inches above the conduit shall be carefully deposited in uniform layers not exceeding 8 inches thick (loose measure). The material in each layer shall be firmly compacted by ramming or tamping with tools approved by the Engineer in such a manner as not to disturb or injure the duct. The backfilling and compaction above this height shall be done by Method 1, as specified in Article 542.04 of the Standard Specifications.

At the end of the settling and drying period, the crusted top of the backfill material shall be scarified and, if necessary, sufficient backfill material added, as specified in Method 1, to complete the backfilling operations.

The method used for backfilling and compacting backfill material shall produce 95% compaction (modified proctor). Should the contractor's methods not produce these results, the Contractor will be required to alter or change the method being used so that the resultant backfill will be satisfactory to the Engineer. Should the Contractor be required to alter or change the method being used, no additional compensation will be allowed.

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When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides firmly in place without caving or settlement. This bracing shall be removed as soon as practicable. Any depressions that may develop within the area involved in the construction operation due to settlement of the backfilling material shall be filled in a manner meeting the approval of the Engineer.

When the Contractor constructs the trench with sloped sides or benches backfilling for the full width of the excavation shall be as herein before specified, except no additional compensation will be allowed for trench backfill material required outside the limits of the specified trench width.

- ii. Non-Paved Areas: - When ducts are constructed outside the limits of pavements as described in Part A, aggregate backfill will not be required above the top of duct, contractor may use the originally excavated materials. Compaction of the excavated materials shall be by Method 1 as outlined in Article 542.04 of the Standard Specifications.

Aggregate backfill will still be required to fill any voids under a/or, adjacent to the top of duct.

Trench backfill, CA-6, shall be furnished for backfilling to the full width of the trench to the neat lines in areas requiring aggregate backfill only. It will be measured in cubic yards in place, except that the quantity for which payment will be made shall not exceed the volume of the trench as computed by using the actual depth of the trench to the top of the concrete duct, the actual length as measured along the center of the concrete duct and by using a maximum trench width. Any trench backfill required in excess of the maximum quantity herein specified shall be furnished by the Contractor at the Contractor's expense. Actual trench excavation may vary due to depth, soil conditions and to meet OSHA and all other State, Federal and Local safety requirements. No additional compensation shall be made for this item, and such work shall be considered incidental to the pay item.

Method of Measurement: Placing of Trench backfill, CA-6, shall be visually observed by the Engineer and measured for payment in place to the neat lines as specified from the crown top of concrete to within 6" of final grade, to allow for sod and 6" of black dirt or to within 12 inches of the finished pavement grade plus 6 inches of sub-base to allow for the street pavement as shown on the details. The table below indicates the duct bank configurations for backfilling, for various sizes of duct banks or as directed by the Engineer.

TYPICAL DUCT BANK SIZE FOR BACK FILLING

2 WAY- 3" PVC DUCT BANK - 1 HIGH BY 2 WIDE

2 WAY- 6" PVC DUCT BANK - 1 HIGH BY 2 WIDE

4 WAY- 2 - 3" & 2 - 6" PVC DUCT BANK - 2 HIGH BY 2 WIDE

6 WAY- 6" PVC DUCT BANK - 2 HIGH BY 3 WIDE

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- 8 WAY- 2 - 3" & 6 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE
- 8 WAY- 8 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE
- 9 WAY- 9 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE
- 9 WAY- 7 - 6" & 2- 3" PVC DUCT BANK - 2 HIGH BY 7 WIDE
- 10 WAY- 8- 6"& 2-3" PVC DUCT BANK - 4 HIGH BY 3 WIDE

Contractor to review construction drawings for additional duct sections that are not shown above but included in the project, no compensation will be allowed for trench backfill required below the top of the concrete duct or for originally excavated material used to backfill in Non-Paved Areas.

Basis of Payment: This work shall be paid for at the contract unit price per cubic yard placed, for TRENCH BACKFILL CA-6, measure as specified, which price shall include payment for furnishing the coarse aggregate, excavation, backfilling and compacting, and incidental materials and collateral work to complete the work as specified.

CONTROLLED LOW – STRENGTH MATERIALS

Description: This work shall consist of furnishing, transporting, and placing Controlled Low Strength Material (CLSM), in accordance with Section 593 of the IDOT Standard Specifications except as herein modified.

When backfilling electrical ducts, the mix shall be distributed evenly on each side of the pipe culvert or conduit to prevent movement, to prevent uplift of the duct, the first layer shall stop at one-fourth the height of the duct. After settlement of the first layer, as determined by the Engineer, the second layer shall stop at one-half the height of the duct. After settlement of the second layer, as determined by the Engineer, the remainder of the trench shall be filled.

Method of Measurement: CLSM shall be measured for payment in place to the trench neat lines as specified from the crown top of concrete or FA-2 to within 6" of final grade, to allow for sod and 6" of black dirt or to within 12 inches of the finished pavement grade plus 6 inches of sub base to allow for the street pavement as shown on the details. The table below indicates the duct bank configurations for backfilling for various sizes of duct banks or as directed by the Engineer. .

TYPICAL DUCT BANK SIZE

- 2 WAY- 3" PVC DUCT BANK - 1 HIGH BY 2 WIDE
- 2 WAY- 6" PVC DUCT BANK - 1 HIGH BY 2 WIDE
- 4 WAY- 2 - 3" & 2 - 6" PVC DUCT BANK - 2 HIGH BY 2 WIDE
- 6 WAY- 6" PVC DUCT BANK - 2 HIGH BY 3 WIDE
- 8 WAY- 2 - 3" & 6 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE
- 8 WAY- 8 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE
- 9 WAY- 9 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE
- 9 WAY- 7 - 6" & 2- 3" PVC DUCT BANK - 2 HIGH BY 7 WIDE
- 10 WAY- 8- 6"& 2-3" PVC DUCT BANK - 4 HIGH BY 3 WIDE

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See contract plans, City of Naperville specifications, for additional information.

Measurement for CLSM around manholes will not be measured separately but shall be considered included in the unit price of the manhole.

Basis of Payment: This work will be paid for at the contract unit price per cubic yard placed for CONTROLLED LOW-STRENGTH MATERIALS, and including all equipment, labor and incidentals required performing the work as specified.

NEW SWITCH GEAR VAULT

Description: This work consists of installing a City furnished prefabricated fiber-crete switchgear vault with vault lid (vault lid is supplied by the contractor) as per the details and at the locations shown in the plans including excavation, restoration, backfilling, installing and furnishing a vault lid with grounds and testing grounds, Installing up to 8-3inch conduit positions, and up to 6-6inch conduit positions, using steel conduit into the switchgear vaults, using 11,22,30,45 or 90 degree steel bends, or PVC bends male and female couplings, straight pieces of 3", 5", or 6 inch steel rigid conduit or PVC, with pieces of schedule 40 PVC conduit, fittings, assembly, cutting, couplings, and sealant. Estimated weight is 700 to 800 pounds.

The work includes but is not limited to installing a new switch gear vault at various locations within the project and includes clearing and grubbing, transplanting bushes and shrubs, tree protection, removing the street base, removing all excavated materials and debris off site, excavation of the for the vault, shoring and bracing materials as required per OSHA, line and grade, loading and transporting the vault from the City of Naperville storage locations, installing bedding, installing the PVC conduit, connections to the new switchgear vault, connect to PVC conduit or steel conduit (adapter connectors for steel to plastic, steel to HDPE or plastic to HDPE supplied and installed with 4 foot long concrete encasement around duct bank by the Contractor), excavating to find existing conduit runs, de-watering of the excavation, testing and protection. The vault excavation shall be excavated to the neat lines, width and depth as shown on the plans or as directed by the Engineer.

This work requires an excavation 10 foot square and 5 feet deep, removal of excavated materials off site and backfilling with CA6, hand digging around energized 7200 volt to ground primary cables, 600 volt secondary cables and 600 volt service and street light cables. This work includes excavation by hand digging and/or machine aided digging. This work includes the installation of sufficient number of 3inch, 6inch 11, 22, 30, 45, and 90 degree bends with pieces of conduit to extend into the vaults with 4 inches of CA-6 backfill materials under the conduit and around the vault to a depth of 6 inches below grade and finish with 6 inches of black dirt and salt tolerant sod to final grade. In addition, installation of 3", 6 inch, schedule 40 PVC, 3", 6 inch steel straight pieces and steel bends or plastic bends to, under and into the switchgear vault, which includes hand digging three (3) trenches, 10 feet long, 4 feet wide and 6 feet deep each.

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The conduits and bends entering the vault shall be positioned and held in place and are steel and installed 6 inches above the bottom of the vault and all conduit openings shall have bell fittings with plugs and pulling string or #12 copper wires THHN installed to and thru the lid of the vault. The Contractor shall provide the following in and around the area and at the site, CA-6 backfill materials, black dirt, salt tolerant sod, grading, landscaping, stone/rock removal, tunneling, hand digging, install new fencing, removal of fencing, provide space for work area, sidewalk replacement, curb and gutter replacement, tree and brush protection and/or replacement, arborist services, and disposal of all removed materials off site. Hand digging is considered part of the work.

See contract drawings for City of Naperville standard details.

All new vault locations must be approved by the CITY OF NAPERVILLE before any work is started. Vaults may be adjusted to meet the concerns of the property Owners. All locations shall be identified in the field, dimensioned and recorded in the surveyor's field book records after the job is awarded to the Contractor. No claims for extra compensation will be considered for cost incurred because of delay due to a change, or the layout of the vault will not fit in the area shown on the drawings and a move is required, accessing the equipment, utility locates or obtaining approval for said change.

This work includes installing all conduits, cutting, placing and arranging conduits, couplings, bends, pumping, tunneling, leveling, cutting, shaving, drilling, saw cutting, and coping of switch gear vault to provide an entrance hole above the support flange to install steel conduit into the vault and associated work to install conduit within and into the electrical equipment at the locations shown. In addition the opening in the vault shall be secured by the Contractor by use of a vault lid purchased by the Contractor and installed over the opening and maintained by the Contractor from vandalism, use, and wear during the length of the project.

The Contractor is advised the vault measures 76" wide by 74" long. The 76" side is the door side. The door on the switch gears shall open to the east and west or as directed by the Engineer.

An outage to perform this work will be determined by the condition of the City of Naperville's electrical system at the time and may not be available in a specific time frame. This condition is normal and is considered incidental to the work. A 72 -hour notice is required for each and every work location. Any delay in completing the work due to outage restrictions or lack of an outage is not a reason for additional compensation and will not be considered. The Contractor shall wait to obtain an outage or move to another task.

The Contractor shall provide tree protection and follow the specifications as shown on the plans for trees to be saved.

Basis of Payment: This work shall be paid for at the Contract price per each NEW SWITCHGEAR VAULT. A Vault installed shall include, furnishing and installing the lid,

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final cleaning out the vault, all labor, material, tools and equipment including excavation, dewatering, grounding, testing the grounds, a lid to cover the opening in vault, top soiling 6inch black dirt and salt tolerant sod around the perimeter of the vault and extending out from the vault edges 10 feet in all directions, concrete encasement of ducts, pulling and training mule tape or wire, fencing, landscaping, grading and leveling, disposal of surplus and excavated materials off site, bedding, CA6 backfill for the entire excavation, transportation and installation of materials to complete the work herein and as shown on the engineering drawings.

PORTLAND CEMENT CONCRETE DRIVEWAY REMOVAL AND REPLACEMENT

Description: This work shall be performed in accordance with Sections 423 and 440 of the IDOT Standard Specifications except as herein modified. The work includes removal of existing PCC driveway and the installation of PCC driveway sections at any required location.

Residential driveways are 6 inches thick minimum PCC concrete and commercial driveways are 8 inches thick PCC concrete minimum. Any adjustments to the sub grade (excavation or fill) shall be considered included in the price of the driveway. Any necessary fill material shall be compacted CA-6 material. Compaction requirements shall be per the Standard Specifications.

Driveway installation shall be done only from April 15 to November 15. All driveways removed and/or not completed before November 15 are to be temporarily patched for winter service using Hot Mix Asphalt material or other approved hard surface material at no additional expense to the City and is to be maintained by the Contractor until the permanent driveway can be placed.

Pavement fabric reinforcement shall be included with all driveway construction and shall be 6" X 6" six gauge steel mesh, which will be installed 3" above the compacted sub-base stone. Contraction joints as necessary, (10' to 15' apart) shall be tooled into the newly placed concrete. Expansion joints shall be placed against existing pavements.

All exposed surfaces shall be cured with a sealant compound Super Rez Seal or equal, in two coats.

Provide full depth pre-molded joint filler 2" thick for expansion joints at walk junctions and intersections where walks about building or platforms. Extend joint fillers full width and depth of joint. Place top of joint filler flush with finished concrete surface. Furnish joint fillers in one-piece lengths for full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together. Protect top edge of joint filler during concrete placement with a metal cap or other temporary material. Remove protection after concrete has been placed on both sides of joint.

See contract plans for City of Naperville typical driveway details.

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Repair or replace broken defective work, as directed by Engineer. Protect pavement from damage until acceptance of work. Maintain driveway as clean as possible by removing surface stains and spillage of materials as they occur. Sweep concrete sidewalks and wash free of stains, discolorations, dirt and other foreign material prior to final inspection.

Method of Measurement: Portland cement Concrete Driveway Removal and Replacement shall be measured for payment, in place complete, in square yards. Measurement shall considered full compensation for saw cutting, excavating, steel plating, removal and disposal of excavated materials, removal and installation of CA-6 backfill to prepare driveway to match existing sidewalk, pavement, and curb and gutter, concrete placing and finishing, form materials, sealants, expansion joints, wire mesh, 6 inches of black dirt and sod, placing of temporary cold patch and/or CA-6 for winter, use of steel plates across driveways, 2 coats of curing/sealing compound, line and grade, pressure washing of adjacent sidewalks to remove grease, stains or other materials necessary to complete this item to the satisfaction of the Engineer. All driveways installed shall be useable as intended. All vandalism or damage of any kind shall be cause for replacement at Contractor's cost.

Basis of Payment: The concrete driveway will be paid for at the contract unit price per square yard placed for PORTLAND CEMENT CONCRETE DRIVEWAY REMOVAL AND REPLACEMENT, which price shall include the installation of concrete driveway sections at locations as shown on the drawings.

HOT MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT

This work shall be performed in accordance with Section 406 of the IDOT Standard Specifications except as herein modified. The work will include the installation and removal of hot mix asphalt (bituminous) driveway sections at any required location, as shown on the plan or as directed by the Engineer.

See contract plans for City of Naperville for typical driveway details for residential. Substitute hot mix asphalt for concrete.

The Contractor shall remove all existing pavement materials including sub-base, wearing surface and aggregate and disposal of all existing pavement, gutter inlets, entrances combination curb and gutter, backfill materials in preparation of subsequent construction.

This work shall consist of a hot-mix asphalt driveway pavement on a prepared sub-base of 6 inches of compacted crushed stone (CA-6). Sub-grade preparation, crushed stone base and all related work for driveway pavement shall be included in the cost of the work. The asphalt shall be laid in 2 lifts as follows:

Single-family residential drives will be 2 inch thick Hot-Mix Asphalt Binder Course, IL-19.0, N70, 2 inch Hot-Mix Asphalt Surface Course, Mix "C", N50 with 6 inch sub-base.

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Commercial drives will be 10 inch thick Hot-Mix Asphalt Binder Course, IL-19.0, N70, 2 inch Hot-Mix Asphalt Surface Course, Mix "C", N50 with 6 inch sub-base.

The edges of the new pavement that are to be adjacent to grassed parkway shall have a neat forty five (45) degree angle bevel compacted and tamped with mechanical means and hand tampers.

See contract plans, City of Naperville specifications, for additional information

Method of Measurement: This work shall be measured along the surface of the completed driveway, in square yards.

Basis of Payment: This item of work shall be paid at the unit contract price, per square yard, for HOT MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT of the specified thickness and materials noted above and as shown on the plans.

SIDEWALK REMOVAL AND REPLACEMENT (SPECIAL)

Description: This work shall be performed in accordance with Sections 424 and 440 of the IDOT Standard Specifications except as herein modified. This item shall consist of the removal of existing P.C.C. sidewalk at the locations shown on the plans, or as directed by the Engineer. This item shall also include the preparation of the sub grade and base, and the placement of a P.C.C. sidewalk of the width and thickness specified on the plans.

All sidewalks shall be replaced with 5-inch depth Portland Cement Concrete. Any adjustments to the sub grade (excavation or fill) shall be considered included in the price of the sidewalk. Any necessary fill material shall be compacted CA-6 material. Compaction requirements shall be per the Standard Specifications.

Sidewalk thickness increases to 6 inches when it is part of a residential driveway and 8 inches thick when it is part of a commercial driveway.

Sidewalk to be removed shall be as indicated on the plans and marked by the Engineer in the field. Panels damaged by the Contractor that are not marked for removal shall be replaced at the Contractor's expense.

Sidewalk installation shall be done only from April 15 to November 15. All sidewalks removed and/or not completed before November 15 are to be temporarily patched for winter service using Hot Mix Asphalt material or other approved hard surface material at no additional expense to the City and is to be maintained by the Contractor until the permanent sidewalk can be placed.

See contract drawings for City of Naperville standard sidewalk details.

Method of Measurement: Sidewalk Removal and Replacement (Special) will be measured for payment in place, and the area computed in square feet. Measurement shall be considered full compensation for saw cutting, expansion joints, form materials,

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finishing and tooling, handicapped ramps and coloring, excavating, steel plating, removal and disposal of excavated materials, removal and installation of trench backfill to prepare sidewalk to match existing sidewalk, concrete placing and finishing, 6 inches of black dirt and sod, placing of temporary cold patch and/or CA-6 for winter, use of steel plates across driveways, 2 coats of curing/sealing compound, line and grade, pressure washing of adjacent sidewalks to remove grease, stains or other materials necessary to complete this item to the satisfaction of the Engineer. All sidewalks installed shall be useable as intended. All vandalism or damage of any kind shall be cause for replacement at Contractor's cost.

Basis of Payment: This work shall be paid for at the contract unit price per square foot placed for SIDEWALK REMOVAL AND REPLACEMENT (SPECIAL), of the thickness specified, which price shall include all required expansion joints, special texturing, variable height edge treatments at sidewalk ramps, finishing, sealing of the concrete, expansion joints, coloring, disposal and sub grade preparation, protection of the work, all materials, labor, equipment and appurtenances required for a complete item.

COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

Description: This work shall be performed in accordance with Sections 440 and 606 of the IDOT Standard Specifications except as here in modified. The work shall consist of the removal and replacement of concrete curb and gutters of various types and sizes at the locations shown on the plan, or as directed by the Engineer, the preparation of the sub-grade and base and the placement of a Portland cement concrete curb of the types specified on the plans.

See contract plans for City of Naperville curb and gutter details.

Curb and curb and gutters of all types such as: mountable curb and gutter, type B6.12 barrier curb, 6" concrete curb type B or combination concrete curb and gutter, and depressed of all types are to be removed and replaced as indicated on the plans and marked by the Engineer in the field. Curb and gutter damaged by the Contractor which is not marked for removal shall be replaced at the Contractor's expense.

Method of Measurement: Combination Concrete Curb and Gutter Removal & Replacement will be measured for payment in place along the flow line of the curb and gutter in feet, which will be calculated by the field measurements. Measurement shall be considered full compensation for saw cutting, sealing, joint sealant, expansion joints, forms of all types, form materials, epoxy coated re-bars, control joints, finishing, excavating, steel plating, removal and disposal of excavated materials, removal of trench backfill to match existing pavement and curb and gutter sections, concrete, placing of tack coat and bituminous surface course, temporary asphalt patches, line and grade, and any other labor, equipment, tools or materials necessary to complete this item to the satisfaction of the Engineer. All curb and gutters installed shall be useable as intended. All vandalism or damage of any kind shall be cause for replacement at Contractor's cost.

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Basis of Payment: This work shall be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT completed and placed, regardless of the various types shown on the plans which price shall include all required concrete, expansion joints, forms, barricades, reinforcement steels, disposal of materials, sub-grade preparation, protection of the work, all materials, labor and equipment and appurtenances required for a complete item.

EARTH EXCAVATION (SPECIAL)

Description: This work shall be performed in accordance with Sections 201 and 657 of the IDOT Standard Specifications except as herein modified. This work shall consist of backfilling with approved materials taken from the excavation in unpaved areas. All material not used are to be disposed of off-site.

The backfill materials, spoil, shall be placed on top of the conduit encasement up to the 6-inch layer of topsoil and sod. Backfill shall be used to fill over, next to, around and over the duct bank. The backfill material, spoil, shall be compacted by method 1 as specified in Article 542.04 of the Standard Specification. Care shall be taken when compacting backfill materials so as not to damage the concrete encased duct package.

The contractor is required to separate out all rocks, boulders and cobblestone, stones larger than 1", and all organic materials. No rock, cobbles, stone, broken concrete or organic materials are allowed for backfill and shall be disposed of off-site.

The contractor shall make all necessary arrangements for disposal areas for excess excavated materials to be disposed off site and shall pay all costs incidental to securing permission for their use and shall dispose of all surplus excavated material without cost to the City. Stockpiling of excavated materials on-site will not be allowed overnight. When excavated material is suitable as backfill, it shall be loaded directly onto trucks for removal from the Work site or sites. No excess excavated material shall be stored on any public property or right-of-way. Such material shall be disposed of at a properly licensed landfill or on such other private property as the contractor may determine, subject to the consent of the City thereof, and the approval of all relevant governmental agencies. Notification of all disposal areas must be given to the Engineer prior to start of work by Contractor.

The Contractor shall be responsible to maintain the area backfilled during the course of the project and for one year after completion. If after backfilling, the trench area starts to sink, shift, a depression occurs, area becomes uneven, area becomes sponge, area ponds, or becomes unstable for any reason, and in the event the backfilled area can not be made stable, the entire backfill area shall be removed and compacted with lifts of CA6. This work is all at the Contractors expense.

TYPICAL DUCT BANK SIZE TO BE BACKFILLED

2 WAY- 3" PVC DUCT BANK - 1 HIGH BY 2 WIDE

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- 4 WAY- 2 - 3" & 2 - 6" PVC DUCT BANK - 2 HIGH BY 2 WIDE
- 6 WAY- 6" PVC DUCT BANK - 2 HIGH BY 3 WIDE
- 8 WAY- 2 - 3" & 6 - 6" PVC DUCT BANK - 3 HIGH BY 3 WIDE
- 10 WAY- 6" PVC DUCT BANK - 4 HIGH BY 3 WIDE
- 10 WAY 6- 6"& 4-3" PVC DUCT BANK - 4 HIGH BY 3 WIDE

Contractor to review construction drawings for additional duct sections that are not shown above but included in the project, no compensation will be allowed for trench backfill required below the top of the concrete duct or for originally excavated material used to backfill in Non-Paved Areas.

Method of Measurement: Placing of backfill shall be visually observed by the Engineer and shall be measured in place in cubic yards, as compacted, based on the length and depth neat lines as shown on the plans and field documented and verified to the maximum trench width and depth as shown in the typical conduit section detail. The depth shall be measured every 20 feet in place from the top of the FA-2 or concrete encasement to the bottom of the 6inch thick layer of pulverized black dirt & sod interface above the trench. Additional backfill required due to trench greater than the specified neat lines shall be furnished and placed at the Contractor's expense. Bedding materials are considered incidental to the installation.

Basis of Payment: This work shall be paid for at the contract unit price, per cubic yard, for EARTH EXCAVATION (SPECIAL).

ROD AND MANDREL, PULL ROPE, OR MULE TAPE OR #12 WIRE

The Contractor shall rod, mandrel and lubricate and swab all ducts installed. The Contractor shall purchase, fabricate and furnish a 6 inch long by different diameter mandrel for each size of conduit namely; 3, 5, and 6-inch conduit, made of wood or steel, with a pulling eye on each end. The diameter of each mandrel is usually $\frac{1}{4}$ smaller than the inside diameter of the conduit being rod and mandrel. The mandrel shall be approved by the City of Naperville. The Contractor shall use Contractor furnished mandrels to mandrel the ducts. The Company shall observe the mandrel installation.

This work includes installing nylon pulling rope or Mule tape or #12 THHN copper wires thru all the conduits Rod and Mandrel. The Contractor shall install conduit plug and sealing mechanism by providing a hole large enough to pass the rope or tape or THHN #12 wire through. The nylon rope or mule tape or #12 copper wires shall be secured to prevent accidental removal by others. The City of Naperville shall determine which type of identification wire to install in each conduit after rod and mandrel is completed.

The Contractor is required to install all conduit ends with seals and plugs as permanent and provide additional protection if the Contractor deems it necessary to last for a 5 year service life.

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A nylon pulling rope 1/8th inch in diameter or mule tape or #12 THHN copper wires, furnished by the City of Naperville, shall be pulled through the ducts and left secured to the top of the Vault, handhole, manhole, or pedestal or structure after Rod and Mandrel is completed. . A 12 inch tail will extend outside the enclosure to allow the locator to put a tone on the wire. The Contractor may choose to use this nylon pulling rope at his own risk with out fault of the City of Naperville to mandrel the ducts. The conduit ends shall be sealed, capped and plugged on both ends, and a tail left through the sealed ends of the conduit for others to pull cable at a latter date. The drawings shall be marked and noted that all ducts have been mandrel. The report is signed by both the City of Naperville and Contractor to verify all ducts are clear and sealed for future use. Any ducts found unclear within one year after installation will be dug up by the Contractor and cleared at no cost to the City of Naperville. However, if the blockage can be determined by the Contractor by excavating in the questioned area where the conduit is blocked and it is determined that the blockage was definitely caused by some unknown party then the cost of repairing the conduit and excavating shall be borne by the City of Naperville, but if after excavating it is not clear as to who or what caused the blockage or there is some doubt that the blockage was not caused by another party then the Contractor shall repair the conduit, close up the excavation and landscape at the Contractors cost. The City of Naperville shall make the final decision.

Method of Measurement: Each conduit of any size or type, rod and mandrel with rope or mule tape or #12 wire, is to be identified by electrical facility Identification number and is to be measured in plan view from manhole to manhole, manhole to switchgear, switchgear to switchgear, etc per linear foot of each conduit rod and mandrel with rope, mule tape or #12 wire and recorded and dated in the surveyors record book. This work shall include all labor, materials, consumables, equipment transportation and incidentals required to perform the work for a complete job. All work shall be performed in the presence of a City of Naperville inspector

Basis of Payment : Rod and Mandrel, with rope or mule tape or #12 wire, which will be paid for at the contract unit prices per linear foot of conduit rod and mandrel, with rope or mule tape or #12 wire in place . The contractor shall Rod and Mandrel each 3 inch conduit, 5 inch conduit and /or 6 inch conduit installed and install in each conduit rope, mule tape or #12 wire, for the entire project which shall be full compensation for all materials, labor, equipment, consumables, traffic control, cleaning out of facilities worked in , and appurtenances necessary to complete the work.

VIDEO TAPE

Description: This work shall consist of providing all labor and provide all materials to video tape the entire electrical construction area route including audio commentary of existing conditions. The Contractor shall make a careful examination of the location, field traverse the entire route of the project, observe and note existing site conditions and nature of the proposed work, as well as the drawings and specifications, and all other Contract Documents in connection with the work and services to be performed under this Contract.

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Furthermore, he shall make a thorough investigation of the potential interference's and difficulties he may encounter such as, underground utilities, trees, fences, gardens, shrubs, out buildings, landscaping, but not limited to, road conditions or boulders and debris along fence lines for the proper and complete execution of all work specified herein and/or shown or called for on the drawings.

The video shall be in color on VHS or DVD. Two (2) copies of each presentation shall be provided. All video's to be compatible with the City of Naperville playback system, legible, in color, clear and identified by date time and location and direction.

The Contractor shall video the entire Right of way and 40 feet on either side. The Contractor shall video all evergreens, trees and fences in their natural state and show length height and depth. The video shall pick up all land features, houses, driveways, curbs and gutters, fire hydrants, sidewalks, street markings, berms, landscaping etc. for a complete representation of what is within the work area as the Contractor walks the right of way The Length of the right of way is approximately 6 miles.

The Contractor shall provide all pictures with dates and times and direction and verbally document the locations. The Contractor shall provide a video and audio at the beginning of the project covering the entire project and a video when the project is completed.

Method of Measurement: This work will be measured by unit. A unit consists of each time the area is requested to be video taped. The Contractor shall provide at a minimum, one video taping session of the entire area before the work is started and one video taping session after the work is completed and is considered a unit.

Basis of Payment: This work shall be paid for at the contract unit price, per unit for VIDEO TAPE.

SODDING (SPECIAL)

Description: This work shall be performed in accordance with Sections 211, 250 and 252 of the IDOT Standard Specifications except as herein modified. This work shall include the placement of topsoil, sod, fertilizing, sod, watering and supplemental watering of all disturbed areas along the proposed improvements at the location shown on the plan or as directed by the Engineer.

Materials shall be in accordance with Article 1081.03 of the Standard Specifications. Native Sod comparable to the local grasses shall be used. Sod grown in areas of high organic material such as peat shall not be used.

See contract plans, City of Naperville standard specifications, for additional information.

A minimum of 6 inches of topsoil shall be placed over all disturbed areas. All soil surfaces shall be moist when the sod is applied.

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Fertilizer shall be applied at the following rates:

Nitrogen Fertilizer Nutrients	90 lbs/acre
Phosphorus Fertilizer Nutrients	54 lbs/acre
Potassium Fertilizer Nutrients	36 lbs/acre

Method of Measurement: Sodding, Special shall be measured per square yard placed. All turf areas restored with sod within the limits of restoration will be eligible for payment. Areas beyond the public right-of-way or the easement areas shown that are disturbed by the Contractor's activities shall be restored to equal or better condition by the Contractor at the Contractor's expense. In no case shall the pay limits for restoration extend beyond 15' (feet) from the center of the proposed utility being constructed.

All vandalism or damage of any kind shall be cause for replacement at Contractor's cost.

Basis of Payment: Payment for sod shall be made at the contract unit price bid per square yard placed for SODDING, SPECIAL.

SEEDING, CLASS 1A (SPECIAL)

Description: This work shall be performed in accordance with Sections 211 and 250 of the IDOT Standard Specifications except as herein modified. This work shall include the placement of topsoil; seeding and fertilizing of all disturbed areas are not specified to have sod along the proposed improvements at the location shown on the plan or as directed by the Engineer. Watering and supplemental watering of all disturbed areas along the proposed improvements at the location shown on the plan or as directed by the Engineer is included.

Seeding and fertilizing materials shall be in accordance with Section 250 of the Standard Specifications. Seed shall be Class 1A, Salt Tolerant Lawn Mixture.

See contract plans, City of Naperville standard specifications for additional information.

A minimum of 6 inches of topsoil shall be placed over all disturbed areas. All soil surfaces shall be moist when the sod is applied.

Fertilizer shall be applied at the following rates:

Nitrogen Fertilizer Nutrients	90 lbs/acre
Phosphorus Fertilizer Nutrients	54 lbs/acre
Potassium Fertilizer Nutrients	36 lbs/acre

Areas beyond the public right-of-way or the easement areas shown that are disturbed by the Contractor's activities shall be restored to equal or better condition by the Contractor at the Contractor's expense. In no case shall the pay limits for restoration extend beyond 30' (feet) from the center of the proposed utility being constructed.

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All seeded areas shall be mowed four (4) times to a height of three (3) inches. The cut material shall not be wind rowed or left in a lumpy condition but evenly distributed. Areas beyond the limits shown on the restoration plan shall be restored to better or equal conditions at the Contractor's expense.

See contract plans, City of Naperville specifications, for additional information.

All vandalism or damage of any kind shall be cause for replacement at Contractor's cost.

Method of Measurement: Seeding, Class 1A (SPECIAL) will be measured in place in acres of level surface area seeded. Areas beyond the public right-of-way or the easement areas shown that are disturbed by the Contractor's activities shall be restored to equal or better condition by the Contractor at the Contractor's expense. In no case shall the pay limits for restoration extend beyond 15' (feet) from the center of the proposed utility being constructed.

Basis of Payment: Payment shall be made at the contract unit price per acre placed for SEEDING, CLASS 1A (SPECIAL). Payment shall be full compensation for all seed, fertilizer, watering, other materials, labor, equipment and incidentals to complete the item on the plan and as specified.

ROCK EXCAVATION (SPECIAL)

Description: This work shall be performed in accordance with Section 202 of the IDOT Standard Specifications except as herein.

Rock excavation shall include all hard, solid rock ledges, bedded deposits and uncertified masses and all conglomerate deposits or any other material so firmly cemented that, in the opinion of the Engineer, it is not practical to excavate and remove same with a 225 net flywheel horsepower hydraulic backhoe or equal, except after continuous use of pneumatic tools or hammering. No soft or disintegrated rock which can be removed with a pick, grinding or jack hammer (40pounds): no loose, shaken or previously broken rock; and no rock which may fall into the excavation from outside the limits of excavation will be classified as rock excavation. Rock excavation shall also include all rock boulders necessary to be removed having a volume of three cubic yards or more.

When rock is encountered, it shall be stripped of earth and the Engineer notified and given proper time to measure the same before removal. Any rock that has been removed prior to measurement by the Engineer will not be classified as rock excavation. To be classified as rock, the material shall meet a very high RDQ classification.

Payment will be made for rock excavation only within a line eighteen inches outside the concrete walls of the manhole or within the limits of a trench one foot wider than the width of duct bank, in case of trench excavation, and to a depth six inches below

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plan elevations for bottom of foundation or duct bank, or to the exact limits of rock cut contours or cross sections.

The use of explosives will not be permitted with any type of rock excavation.

Basis of Payment: This work will be paid for at the contract unit price per cubic yard for ROCK EXCAVATION (SPECIAL). This price shall be full compensation for furnishing all materials; for all preparation, excavation and disposal of rock; and for all labor, equipment, tools and incidentals necessary to complete the item. Dump tickets are required.

ADDITIONAL GROUND ROD INSTALLATION

Description: This work shall consist of installing additional 10 foot ground rod at each new installation. One (1) 10-foot ground rod shall be installed at each transformer vault or riser and four (4)-10 foot ground rods at each fuse, plug or switchgear vault, handhole, splice box, manhole and One (1)-10 foot ground rod at each riser pole or transformer vault. Install 50 feet of 4/0 7 stranded bare copper ground wire around the inside perimeter of each vault, handhole splice box,

See contract drawings, City of Naperville standard specifications for additional information.

The Contractor shall have tested each and every ground rod installed as per specification attached. The Contractor shall test all ground rods installed and the total system of rods and wire. The Contractor shall record data on forms supplied and give to the Resident Project Inspector Representative. The Contractor is advised the cost of the above work is included in the pricing for vaults; handholes splice boxes and riser installations for a complete job.

Basis of Payment: This work shall be paid for at the contract unit price, per each, for ADDITIONAL GROUND ROD INSTALLATION. This price shall be full compensation for installing and testing each additional 10 foot copper clad ground rod or each 10 foot stainless steel ground rod installed 12 inches below grade, including connecting to the existing grounding system with 10 feet of 4/0 copper 7 strand wire 12 inches below grade and testing the system as described above to 25 ohms with documentation, picking up grounding materials from the City storeroom, plus furnishing all minor materials, all preparation, cleaning, all dirt, waste, and gravel removal, pumping, disposal of all removed materials, rough grading, and for all labor, equipment, tools, consumables and incidentals necessary to complete the item.

COUNTERPOISE, UNPAVED COUNTERPOISE, PAVED

Description: The Contractor shall install counterpoise at a manhole, handhole or switchgear vault as directed by the Engineer or as shown on the drawings.

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The counterpoise shall be installed at the locations in paved and unpaved areas as directed by the Engineer. The work consists of traffic control, excavating, backfilling protecting the work area, restoring pavement to the original condition or better, disposal of all excavated materials off site, picking up and delivering all material from the City of Naperville storeroom to the job site and installing the equipment.

The Contractor shall excavate a trench 18 inch min to 24 inches max deep and 6 inches wide for a minimum of 100 feet to a maximum of 250 feet, in a radial direction out from the equipment. A bare #4/0 stranded coated copper conductor shall be installed into the trench backfilled with CA-6 and compacted 6 inch lifts and connected 18 inches below ground to the ground rods previously installed The ground with the counterpoise connected and backfilled shall be tested and resistance measured by the Fall of Potential Method Or Clamp on Method.

A measured resistance of 25 ohms is the acceptable value. If the reading is above 25 ohms the Contractor shall contact the Engineer and another counterpoise may be installed tested and results evaluated.

See contract drawings, City of Naperville standard specifications, for additional information.

The Contractor is advised that if rock is uncovered or found by potholing to the bottom of a manhole excavation, counterpoise shall be installed with the duct bank.

The counterpoise shall be installed thru the manhole walls or duct entrance and consists of approximately 300 feet on each run. One end of each run shall installed in the manhole with each run having a 30 foot tail of 4/0 copper bare wire.

The both copper wire tails shall be left coiled in the manhole

The other ends of the coiled wire shall install for 250 feet on top of the duct bank and is continuous. Each run is separated by 2 feet, and installed from the manhole wall to a point 250 feet away, both in the same direction for a total of 500 feet of 4/0 copper bare wire. Each counterpoise shall left in the trench and backfilled with trench backfill or as directed by the Engineer.

The tails shall be attached by training 4/0 wire thru the manhole to the ground rods, the trench backfilled and grounds tested

When this situation arises the contractor shall be paid as if the counterpoise is installed in an unpaved area for each foot installed in the duct bank. The cost of training the wire thru the manhole, connecting, placing and attaching to the manhole walls, and grounding is included in the price for installing counterpoise in unpaved areas.

The disturbed area in unpaved areas shall be fully restored with 6 inches of black dirt and sod.

The disturbed area in paved areas shall be restored with 12 inches of BAM or 2 inches of asphalt and 10-inch thick concrete with 6-inch sub-base of CA-6 in both.

All grounding materials are supplied by the City of Naperville.

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Method of Measurement: The work shall be measured per lineal foot of counterpoise placed connected and tested. .

Basis of Payment: The work shall be paid for at the contract unit price per foot of COUNTERPOISE installed which shall include all trenching, traffic control, installation of materials furnished by the City of Naperville and final restoration.

HAND DIGGING, 0 FT TO 5 FEET IN PAVEMENT

HAND DIGGING, 5 FT TO 20 FEET IN PAVEMENT

HAND DIGGING, 0 FT TO 5 FEET IN UNPAVED AREAS

HAND DIGGING, 5 FT TO 20 FEET IN UNPAVED AREAS

Description: The Contractor shall assemble the necessary equipment, traffic control, materials, customer contacts, and labor to perform an earth excavation to the length and width and to a 5 foot or 20 foot depth and meet all federal and local regulations by hand digging as directed by the Engineer.

The Contractor shall saw cut, remove and install and replace all existing vegetation, a 12 inch thick concrete or 12 inch thick Bam street base, sub-base, provide earth excavation, removal of sod and black dirt, clearing and grubbing, disposal of all materials off site and backfilling with trench backfill CA-6 street base or sod and 6 inches of black dirt, provide a Julie, support foreign utilities, restore area to original or better condition by hand digging.

Method of Measurement: The hand digging excavation shall be measured to the straight neat lines required for payment in place and calculated in feet (Length times Width times Depth in cubic yard volume) by the field measurement of straight neat lines. Measurement shall be considered full compensation for saw cutting excavating, flag individuals, electronic sign boards, steel plates, traffic control, removal and disposal of excavated materials off site, street replacement, and installation and removal of landscaping, installation of all temporary work and patching, site preparation, site protection, storage, Julie locates, supporting foreign utilities, line and grade, maintaining elevation and all labor tools, equipment, materials, consumables, permits, and appurtenances to complete this item to the satisfaction of the Engineer. Sidewalk replacement, curb and gutter replacement are paid separately.

Basis of Payment: The work shall be paid for at the contract unit price per cubic yard, in place for HAND DIGGING in various areas, regardless of the various types and locations shown on the plans which will include all required PCC concrete, saw cutting, expansion joints, forms landscaping, material removal and disposal off site, traffic control, protection work, materials falling into excavation shall be removed and replaced but not included in measurement, backfill materials placed and compacted in 6 inch lifts, bituminous materials, tack coat, compaction of sub-base and place sub-base backfill CA-6 materials.

MACHINE AIDED DIGGING, 0 FT TO 5 FEET IN PAVEMENT

GENERAL SPECIFICATION FOR JEFFERSON AV. BRIDGE ELECTRIC WORK

GENERAL REQUIREMENTS

MACHINE AIDED DIGGING, 5 FT TO 20 FEET IN PAVEMENT

MACHINE AIDED DIGGING, 0 FT TO 5 FEET IN UNPAVED AREAS

MACHINE AIDED DIGGING, 5 FT TO 20 FEET IN UNPAVED AREAS

The Contractor shall assemble the necessary equipment, bracing and shoring materials, labor, consumables, pumps, traffic control, materials, customer contacts, and labor to perform an earth excavation to the length and width and to a 5 foot or 20 foot depth and meet all federal and local regulations by machine aided digging as directed by the Engineer. The excavation shall be of sufficient size to allow 2 work force individuals to perform job duties per OSHA regulations.

The Contractor shall saw cut, remove all existing vegetation and replace, clearing and grubbing, remove a 12 inch thick concrete or 12 inch thick Bam street base, asphalt wearing surface, tack coat, stripping, sub-base, earth excavation, removal of sod and black dirt, disposal of all materials off site and backfilling with trench backfill, street base or sod and black dirt provide a Julie, remove excavated materials off site for disposal, and backfill with clean spoils or CA6, support foreign utilities, restore area to original or better condition, CA6 to be paid separately, solid rock removal to be paid separately. Curb and gutter to be paid separately, sidewalk to be paid separately.

Method of measurement: the machine aided digging excavation (A RUBBER MOUNTED COMBINATION OR BACK HOE IS required) shall be measured to the neat lines required for payment in place and calculated in feet (Length times Width times Depth in cubic yard volume) by the field measurement of neat lines. Measurement shall be considered full compensation for saw cutting, excavating, backfilling, clearing and grubbing, site protection, supporting other utilities, site preparation, shoring and bracing, pumping, storage, dewatering with hoses and pumps, steel plates, all temporary work, traffic control, flagman, removal and disposal of excavated materials off site, street removal and installation removal of landscaping and installation of landscaping, Julie locates supporting foreign utilities, line and grade, maintaining elevation and all labor tools equipment, materials, permits, and appurtenances to complete this item to the satisfaction of the Engineer. REMOVE ALL EXCAVATED MATERIAL OFF SITE AND PROVIDE DUMP TICKETS.

Basis of payment: The work shall be paid for at the contract unit price of cubic yard for machine aided digging regardless of the various types and locations shown on the plans which will include all required PCC concrete, saw cutting, expansion joints, forms landscaping, material removal and disposal off site, traffic control, site protection work, materials falling into excavation shall be removed and replaced but not included in measurement, backfill materials placed and compacted in 6 inch lifts, bituminous materials, concrete materials, dowel bars, finishing, weather protection, tack coat, compaction of sub-base and place sub-base backfill CA-6 materials all temporary work, steel plates, sub grade preparation with all materials labor and equipment and appurtenances required for a complete item.

CLASS B PATCHES

CLASS D PATCHES

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Description: This work shall be performed in accordance with Section 442 of the IDOT Standard Specifications except as herein modified.

If the areas designated for patching are found to be composite pavement (hot mix asphalt over Portland Cement Concrete), the patch area shall be constructed to match the existing pavement section, using materials and method as per the appropriate areas of the Standard Specifications. Payment for the patching of composite pavement sections will be by CLASS B PATCHES per square yard of measured area.

All pavements removed and/or not completed before November 15 in pavements that are to remain open to traffic, will be allowed to be temporarily patched for winter service and maintained by the Contractor. All pavement removed and/or not completed may be temporarily patched by using a 10 inch thick high early concrete, (4500 PSI) a fast setting mix across the entire trench area. The concrete shall be placed evenly and level to the top of the existing pavement. The trench covered with counter sunk steel plates. The plates are counter sunk and left for 3 days. The plates are then removed on the fourth day. The patch is for winter service only and maintained by the Contractor during this period. All temporary patches shall be removed as soon as the asphalt plants are open in the spring and permanent repairs made.

Patches will be paid for only once, of the Class and Type of the final installation. Temporary patches used over winter periods will not be paid for.

Saw cutting of all patches shall be included in the cost of Class B or Class D Patches.

Any dowel bars and tie bars needed for Class B patches shall be included in the cost of Class B Patches.

WORK ZONE TRAFFIC CONTROL (SPECIAL) (LUMP SUM PAYMENT)

Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

Method of Measurement:

All traffic control (except traffic control pavement marking) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis. Traffic control pavement markings will be measured per foot (meter).

Basis of Payment:

All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

GENERAL SPECIFICATION FOR JEFFERSON AV. BRIDGE ELECTRIC WORK

GENERAL REQUIREMENTS

STANDOFF RISER ASSEMBLY 6"

The Contractor shall install a riser (conduits to and up an existing or new pole) with two, 90 degree 3-inch steel bends or two 90 degree 6-inch steel bends or two 90 degree 5 inch steel bends at the base of a pole, one conduit is sealed at ground line. This work includes the installation of sufficient number of 45, and 90 degree bends with pieces of conduit to extend to the pole. The Contractor shall provide the following in and around the area and at the site, CA-6 backfill materials, black dirt, sod, grading, landscaping, stone/rock removal, tunneling, hand digging, install new fencing, removal of fencing, provide space for work area, sidewalk replacement, curb and gutter replacement, tree and brush protection, arborist services, and/or replacement and dispose of all removed materials off site. Hand digging is considered part of the work. This work includes the hand digging and/or machine aided digging to install 2-6inch 90 degree steel bends, plugs, couplings, grounds and 1-10 foot long pieces of conduit to extend out from the pole. In addition, installation includes hand digging a trench 10 feet long, 3 feet wide, and 6 feet deep. See Drawing and Specification Dispose of all removed materials off site. All riser locations must be approved by the City of Naperville before any work is started. All riser locations shall be identified in the field, dimensioned and recorded in the surveyor's field book records after the job is awarded to the Contractor. No claims for extra compensation will be considered for cost incurred because of delay due to a riser change, UTILITY LOCATES, or obtaining approval for said change. This work includes: all conduits, fencing, bends, pumping, tunneling, tree and brush protection and /or replacement, hand digging, stone/rock removal, leveling, and associated work to install conduit to the riser pole at the existing locations. An outage to perform this work is determined by the condition of the City of Naperville's electrical system and may not be available in the time frame that will meet your needs. This condition is normal and is considered incidental to the work. A 96-hour notice is required for each and every work location. Any delay in completing the work due to outage restrictions or lack of an outage is not a reason for additional compensation and will not be considered. See drawing Sheet 24 C30-0320 on Drawing 54679 for riser requirements and is included in the pricing.

Payment will be made for work in place under: STANDOFF RISER ASSEMBLY 6"

GENERAL SPECIFICATION FOR JEFFERSON AV. BRIDGE ELECTRIC WORK

GENERAL REQUIREMENTS

DETAILS AND SPECIFICATION DRAWINGS-SEE PLAN SHEETS 56-85

Details/Standard Drawings as follows:

<u>Drawing No.</u>	<u>Sheet No.</u>	<u>Description</u>
54679C1	1	General Notes
54679C2	2	General Notes
54679C3	3	Plan view of Ductbank
54679D4	4	Under Bridge Conduit Details
54679D5	5	Under Bridge Conduit Details
54679D6	6	Under Bridge Conduit Details
54679D7	7	Under Bridge Conduit Details
54679D8	8	Trench Section Details
54679D9	9	Trench Section Details
54679D10	10	Trench Section Details
54679D11	11	Details
54679D12	12	Manhole Details
54679D13	13	Manhole Details
54679D14	14	Manhole Details
54679D15	15	Manhole Details
54679D16	16	General Details
54679D17	17	Duct Run Details
54679D18	18	Duct Run Details
54679D19	19	Duct Run Details
54679D20	20	Duct Run Details
54679D21	21	Grounding Details
54679D22	22	Grounding Details
54679D23	23	Construction Specifications
54679D24	24	Construction Specifications
54679D25	25	Construction Specifications
54679D26	26	Construction Specifications
54679D27	27	Construction Specifications
54679D28	28	Construction Specifications
54679D29	29	Handhole Detail
54679D30	30	Drawing Specifications

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

Effective: May 1, 2007

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

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

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

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

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.

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

Effective : March 16, 2009

Revise Article 1004.03 of the Standard Specifications to read:

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	Gravel Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA All Other	Stabilized Subbase or Shoulders	Gravel Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag Crushed Concrete The coarse aggregate for stabilized subbase, if approved by the Engineer, may be produced by blending aggregates according to Article 1004.04(a).
HMA High ESAL Low ESAL	IL-25.0, IL-19.0, or IL-19.0L	Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF)
HMA High ESAL Low ESAL	C Surface IL-12.5,IL-9.5, or IL-9.5L	Gravel (only when used in IL-9.5L) Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag (except when used as leveling binder)

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

Use	Mixture	Aggregates Allowed
HMA High ESAL	F Surface IL-12.5 or IL-9.5	Crushed Sandstone No Limestone. Crushed Gravel, Crushed Concrete, or Crushed Dolomite may be used in Mixture F if blended by volume in the following coarse aggregate percentages: Up to 50% Crushed Gravel, Crushed Concrete or Crushed Dolomite with at least 50% Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or any Other Crushed Stone (to include Granite, Diabase, Rhyolite or Quartzite). When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 50% to a maximum of 75% of either Slag by volume.

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

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

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

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

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

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 \geq 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 \geq 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.

USE OF RAP (DIST 1)

Effective: January 1, 2007

Revised: July 1, 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 as described in Article 1031.04, herein.

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.
- (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.

- (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.
- (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.
- (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 (G_{mm}) 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 G_{mm} . 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)		$\pm 5 \%$
3/4 in. (19mm)		
1/2 in. (12.5mm)	$\pm 8 \%$	$\pm 15 \%$
No. 4 (4.75 mm)	$\pm 6 \%$	$\pm 13 \%$
No. 8 (2.36 mm)	$\pm 5 \%$	
No. 16 (1.18 mm)		$\pm 15 \%$
No. 30 (600 μ m)	$\pm 5. \%$	
No. 200 (75 μ m)	$\pm 2.0 \%$	$\pm 4.0 \%$
Asphalt Binder	$\pm 0.4 \%$ ^{1/}	$\pm 0.5 \%$
G _{mm}	$\pm 0.02 \%$ ^{2/}	
G _{mm}	$\pm 0.03 \%$ ^{3/}	

- 1/ The tolerance for conglomerate 3/8 shall be $\pm 0.3 \%$.
- 2/ Applies only to conglomerate 3/8. When variation of the G_{mm} exceeds the $\pm 0.02 \%$ 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 G_{mm} 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.

Aggregate Quality Testing of RAP:

The processed pile shall have a maximum tonnage of 5,000 tons (4500 metric tons). The pile shall be crushed and screened with 100 percent of the material passing the 3/4 in. (19mm) sieve. The pile shall be tested for AC content and gradation and shall conform to all requirements of Article 1031.03 Testing, herein. Once the uniformity of the gradation and AC content has been established, the Contractor shall obtain a representative sample with district oversight of the sampling. This sample shall be no less than 50 lbs (25 kg) and this sample shall be delivered to a Consultant Lab, prequalified by the Department for extraction testing according to Illinois Modified AASHTO T 164. After the AC has been extracted, the Consultant Lab shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid directly by the Contractor. The District will forward the sample to the BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

1031.05 Use of RAP 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) 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.

- (c) 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.
- (d) 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.
- (e) 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.

Maximum Mixture 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/ 4/}	15/25 ^{2/}	10 ^{4/}
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.
- 4/ Polymerized Leveling Binder, IL-4.75 is 15 %

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."

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.



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO, ILLINOIS 60606-7206

REPLY TO
ATTENTION OF:

Technical Services Division
Regulatory Branch
LRC-2009-00148

JUN 15 2009

SUBJECT: Proposed Replacement and realignment of the Jefferson Avenue Bridge over the West Branch of the DuPage River in the City of Naperville, DuPage County, Illinois

City of Naperville
Attention: Bob Kozurek
400 S. Eagle Street
Post Office Box 3020
Naperville, Illinois 60566-7020

Dear Mr. Kozurek:

The U.S. Army Corps of Engineers, Chicago District, has completed its review of your notification for authorization under the Regional Permit Program (RPP), submitted on your behalf by Bollinger Lach Associates, Inc. This office has verified that your proposed activity complies with the terms and conditions of Regional Permit 3 and the overall RPP under Category I of the Regional Permit Program dated April 1, 2007. The activity may be performed without further authorization from this office provided the activity is conducted in compliance with the terms and conditions of the RPP.

This verification expires three (3) years from the date of this letter and covers only your activity as described in your notification and as shown on the plans titled, Plans For Proposed Federal Aid Project Bridge Replacement FAU Route 3570 – Jefferson Avenue Bridge Over West Branch of DuPage River – Bridge Replacement, Road Construction dated March 2005 (revised March 2009), prepared by Bollinger Lach Associates, Inc. Caution must be taken to prevent construction materials and activities from impacting waters of the United States beyond the scope of this authorization. If you anticipate changing the design or location of the activity, you should contact this office to determine the need for further authorization.

This authorization is contingent upon implementing and maintaining soil erosion and sediment controls in a serviceable condition throughout the duration of the project. You shall comply with the Kane/DuPage Soil and Water Conservation District's (SWCD) written and verbal recommendations regarding the soil erosion and sediment control (SESC) plan and the installation and maintenance requirements of the SESC practices on-site. You shall complete the following requirements:

1. Work authorized herein shall not commence until you provide written evidence to this office that the Kane/DuPage SWCD has determined that your plans meets technical standards. In addition, you shall schedule a preconstruction meeting with Kane/DuPage SWCD to discuss the SESC plan and the installation and maintenance requirements of the SESC practices on the site.
2. You shall notify the Kane/DuPage SWCD of any changes or modifications to the approved plan set. Field conditions during project construction may require the implementation of additional SESC measures. If you fail to implement corrective measures, this office may require more frequent site inspections to ensure the installed SESC measures are acceptable.

This verification does not obviate the need to obtain all other required Federal, state, or local approvals before starting work. Please note that Section 401 Water Quality Certification has been issued by IEPA for this RP. Enclosed are the IEPA Section 401 Water Quality Certification conditions. If you have any questions regarding Section 401 certification, please contact Mr. Dan Heacock at IEPA's Division of Water Pollution Control, Permit Section #15, by telephone at (217) 782-3362.

For a complete copy of the RPP program or any additional information on the RPP program, please access our website: www.lrc.usace.army.mil/co-r. Once you have completed the authorized activity, please sign and return the enclosed compliance certification. If you have any questions, please contact Diedra Willis of my staff by telephone at 312-846-5539, or email at Diedra.L.Willis@usace.army.mil.

Sincerely,

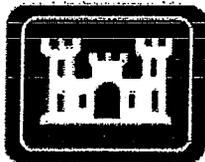


Leesa A. Beal
Chief, East Section
Regulatory Branch
MITCHELLA. ISOE
Chief, Regulatory Branch

Enclosures

Copy Furnished w/out Enclosures:

U.S. Fish and Wildlife Service (Rogner)
Illinois Department of Natural Resources (Schanzle)
Illinois Department of Natural Resources/OWR (Jereb)
Illinois Environmental Protection Agency (Heacock)
DuPage County DEC (Karen Laskowski)
Kane/DuPage SWCD (Stasi Brown)



PERMIT COMPLIANCE

CERTIFICATION

Permit Number: LRC-2009-00148

Permittee: City of Naperville

Date of Issuance: **JUN 15 2009**

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of said permit and if applicable, compensatory wetland mitigation was completed in accordance with the approved mitigation plan.¹

PERMITTEE

DATE

Upon completion of the activity authorized by this permit and any mitigation required by the permit, this certification must be signed and returned to the following address:

U.S. Army Corps of Engineers
Chicago District, Regulatory Branch
111 North Canal Street, 6th Floor
Chicago, Illinois 60606-7206

Please note that your permitted activity is subject to compliance inspections by Corps of Engineers representatives. If you fail to comply with this permit, you may be subject to permit suspension, modification, or revocation.

¹ If compensatory mitigation was required as part of your authorization, you are certifying that the mitigation area has been graded and planted in accordance with the approved plan. You are acknowledging that the maintenance and monitoring period will begin after a site inspection by a Corps of Engineers representative or after thirty days of the Corps' receipt of this certification. You agree to comply with all permit terms and conditions, including additional reporting requirements, for the duration of the maintenance and monitoring period.



DU PAGE COUNTY
ECONOMIC DEVELOPMENT & PLANNING
Robert J. Schillerstrom, County Board Chairman

ECONOMIC DEVELOPMENT ♦ WORKFORCE DEVELOPMENT ♦ BUILDING & ZONING ♦ STORMWATER PERMITTING
WETLANDS PROTECTION ♦ TRANSPORTATION PLANNING ♦ TRANSIT PLANNING ♦ LAND USE ♦ TRAILS

421 N. County Farm Road
Wheaton, IL 60187

(630) 407-6700 Phone
(630) 407-6702 Fax
www.dupageco.org/edp

December 15, 2008

RECEIVED

DEC 19 2008

BOLLINGER, LACH
& ASSOCIATES, INC.

Mr. William J. Novak, P.E.
City of Naperville
400 South Eagle Street
Naperville, IL 60540

RE: Certification for Stormwater Management Permit Application No. 04-25-0014 (DEC Track No. T15243)
Jefferson Avenue Bridge Reconstruction, Incorporated Naperville, DuPage County, Illinois
PPN: N/A
(NOTE: THIS IS NOT A PERMIT – A Building Permit must be picked up prior to any on site work)

Dear Mr. Novak:

The Division of Environmental Concerns (DEC) of the Department of Economic Development and Planning (EDP) received a stormwater permit application/submittal from The City of Naperville, for the removal, realignment, and replacement of an existing bridge spanning the West Branch DuPage River, complete with roadway approaches/reconstruction, storm sewer improvements, curb and gutter, driveway aprons, sidewalks, compensatory storage, lighting, striping, and all associated grading and restoration, to be located along Jefferson Avenue, between east of Willow Drive and the western edge of S. Parkway Drive, within the corporate limits of the City of Naperville, DuPage County, Illinois.

Staff has completed its review of this application and hereby certifies the following documents for compliance with the DuPage County Countywide Stormwater and Flood Plain Ordinance (DCSFPO) for a development within a Special Management Area (floodplain, floodway, wetland, riparian):

1. DuPage County Stormwater Management Permit Application, as assigned Permit No. 04-25-0014 (DEC Tracking No. T15243).
2. Stormwater submittal packet entitled "DuPage County Stormwater Management Permit Application, Jefferson Avenue Bridge Replacement at West Branch DuPage River," as prepared by Bollinger, Lach & Associates, Inc. (BLA), Project No. 068-024, dated December 2004, with latest revision dated January 2006, including the following removable documents:
 - a. Computer disk entitled "Jefferson Avenue Bridge Over West Branch Du Page [SAS] River, FEQ & HEC-2 Hydraulic Modeling," as prepared by BLA, undated, consisting of one (1) CD, as contained within Tab 3 of the above referenced submittal packet; and,
 - b. Plan sheet entitled "Vicinity Topographic Map and Hydraulic Model Schematic, Exhibit 6," as prepared by BLA, dated December 30, 2004, consisting of one (1) sheet, as contained within Tab 6 of the above referenced submittal packet.

125

December 15, 2008

RE: Certification - SWP #04-25-0014 (DEC Tracking No. T15243); Jefferson Avenue Bridge Reconstruction, Incorporated Naperville, DuPage County, Illinois

Page 2 of 3

3. Plan set entitled "State of Illinois Department of Transportation Division of Highways, Plans for Proposed Federal Aid Project Bridge Replacement, FAU Route 3570, Jefferson Avenue Over West Branch of DuPage River, Section 00-00116-00-BR, Project BRM-8003 (032), DuPage County, C-91-138-01," as prepared by Bollinger, Lach & Associates, Inc., consisting of seventy four (74) sheets, as identified below:
 - a. Cover sheet signed September 13, 2005; and,
 - b. Sheets 2 – 8, and 10 – 18 of 74, also 61 of 73, dated March 15, 2005, with latest revision dated September 13, 2005; and,
 - c. Sheet 9 of 74 dated March 15, 2005; and,
 - d. Sheets 16 – 23, 24/S9, 24/S10, 25, 26, 27/S13, 27/S14, 29 – 38, 39/S25, 39/S26, 41 – 46, and 18 of 62, also 62 – 67 of 74 undated; and,
 - e. Sheets 1 – 4 of 57 dated February 10, 2005; and,
 - f. Sheet 54 of 57 dated February 16, 2005; and,
 - g. Sheet 55 of 57 dated February 14, 2005; and,
 - h. Sheets 58 and 59 of 73 dated October 18, 2002; and,
 - i. Sheet 60 of 73, with latest revision dated June 12, 1996; and,
 - j. Sheet W1.0 dated February 17, 2004; and,
 - k. Sheet W2.0 dated March 3, 2004; and,
 - l. Sheets L.1 – L.5 of 5, dated May 2, 2005, with latest revision dated August 15, 2005.

Be advised the City of Naperville holds a partial waiver of enforcement status from the DuPage County Countywide Stormwater and Flood Plain Ordinance. As such, the City of Naperville is responsible to review and approve applications for stormwater management issues. Therefore, for the above referenced development project, our office has only reviewed and provided certification relating to the special management areas (floodplain, floodway, wetland, riparian). All approvals pertaining to the stormwater management facilities shall be done by the City of Naperville, unless requested otherwise.

Based upon our certification of the above referenced documents, our office hereby authorizes the City of Naperville to issue permits for the above referenced development. As a reminder, it is the City of Naperville's responsibility to enforce the provisions of the DCSFPO, including, but not limited to, the following conditions:

SPECIAL CONDITIONS:

1. There is a statement in Tab 3 that mentions that the excess compensatory storage volume would be available for credit against future fill in the floodplain. Although DuPage County does not recommend this approach, note that all submittals must clearly establish the quantity, location, and increment of excess compensatory storage, and must also document the changes to this amount in the future. In addition, please note that future compensatory storage credit may not be usable if the design does not satisfy all requirements of the DCSFPO. As a reminder, any potential future credit for compensatory storage volume would need to be based on as-built information.

December 15, 2008

RE: Certification - SWP #04-25-0014 (DEC Tracking No. T15243); Jefferson Avenue Bridge Reconstruction, Incorporated Naperville, DuPage County, Illinois

Page 3 of 3

2. The submitted stormwater management report, all plans, pull out plan sheets from the report, specifications and calculations need to be properly signed by a Licensed Professional Engineer and must contain an imprint of their professional seal prior to issuance of a building permit. In addition, the date of expiration of the certification will also need to be included.

GENERAL CONDITIONS:

1. Per Section 15-116.2 of the DCSFPO, sediment and erosion control devices shall be functional before land is otherwise disturbed on the site. Therefore, the City of Naperville should ensure that all required sediment and erosion control devices are in place prior to the commencement of construction activities.
2. Per Section 15-133.11 of the DCSFPO, compensatory storage shall be operational prior to placement of fill, structures, or other material in the regulatory floodplain. Therefore, per Section 15-149.2(f) of the DCSFPO, upon construction of compensatory storage areas and completion of the development, as-built drawings of the site must be submitted to the City of Naperville for review and approval. The as-built drawings must be prepared, signed and sealed by an Illinois licensed professional engineer, and must include calculations showing the as-built volume of the compensatory storage areas.

Enclosed, please find three (3) submittals as certified by our office. Please forward two (2) submittals onto the developer at time of permit issuance.

Respectfully,



Clayton Heffter
Stormwater Permitting Manager

CCH:drw

cc: Diedra Willis, USACE
Bollinger, Lach & Associates, Inc., 333 Pierce Road, Suite 200, Itasca, IL 60143
Juli Crane, Planning Resources, Inc., 402 West Liberty Drive, Wheaton, IL 60187
Christine Klepp, P.E., Senior Project Engineer, SM
Karen Laskowski, Wetland Program Manager, DEC
Ying L. Miao, P.E., Project Engineer, PWD
Kathy Huth-Nicholl, Division Assistant II, DEC
File SWP #04-25-0014 (DEC Tracking No. T15243)

Q:\permits\25\Naperville\2004\04-25-0014 (T15243) Jefferson Ave Bridge Replacement\Cert.doc



Route FAU Route 3570
Section 00-00116-00-BR
County DuPage

Marked Rte. Jefferson Ave. Over DuPage River
Project No. BRM-8003 (032)
Contract No. 83827

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

NPDES permits associated with this project:

- ILR10 Permit No. (if applicable): _____
- ILR40 Permit No. (if applicable): _____

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.

William J Novack
Print Name
City Engineer
Title
City of Naperville
Agency

[Signature]
Signature
03/18/09
Date

I. Site Description:

A. The following is a description of the project location:

The project is located at Jefferson Avenue over West Branch of DuPage River between Douglas Avenue and Willoway Drive in the City of Naperville, DuPage County, Illinois. The construction limits is from Sta.5+43.04 east of Willoway Drive to Sta. 14+48.29 west of Douglas Avenue. This is approximately 610 ft east to 145 ft west of the bridge. The gross length of the project is 905 ft (0.17 miles).

B. The following is a description of the construction activity which is the subject of this plan:

The project consists of removal and replacement of Jefferson Avenue Bridge over West Branch of DuPage River, roadway reconstruction, removal and replacement of signs, roadway lightings, sidewalk, storm sewer And drainage structures, combination of concrete curb and gutters, two pier removal, storm sewer outlet Relocation, two abutment removal, earth excavation, restoration/landscaping, pavement markings and all Incidental and all collateral work necessary to complete the project as shown on the plans.

C. 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:

The construction of the Jefferson Avenue Bridge over West Branch of DuPage River will require closing the Jefferson Avenue from Douglas Avenue to Willoway Drive a detour plan is attached. During the construction temporary erosion control measures will be installed prior to earth excavation and will be monitored, adjusted and maintained as work progress. Erosion control measures should remain in place

until ground cover has been established.

- D. The total area of the construction site is estimated to be 2.80 acres.

The total area of the site that is estimated will be disturbed by excavation, grading or other activities is 2.60 acres.

- E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

The weighted average runoff coefficient for this project is 0.53.

- F. The following is a description of the soil types found at the project site followed by information regarding their erosivity:

As shown in the geotechnical soil boring logs prepared by SEECO Consultants, Inc. sheet number S28 of S34 The pavement section consists of silty clay, brown, little fine to medium gravel, hard, moist to a depth of 6 ft. underlying the silty clay is dark brown to black topsoil to a depth of 1.5 ft. underlying the black topsoil is peat or organic clay, dark shells and sand, soft, wet to a depth of 5 ft. Underlying the peat or organic clay is sand to a depth of 2.5 ft. Underlying the sand is sandy gravel is silty clay to a depth of 2.5 ft. underlying the silty clay to the top of bedrock (the bedrock was encountered at the depth of 20 ft). The bedrock consists of dolomite bedrock.

- G. The following is a description of potentially erosive areas associated with this project:

The potential critical erosive area is from Sta. 5+43.04 to Sta. 14+48.29, that includes the removal and replacement of Jefferson Avenue Bridge over the West Branch of DuPage River, earth excavation and roadway reconstruction.

- H. The following is a description of soil disturbing activities, their locations, and their erosive factors (e.g. steepness of slopes, length of slopes, etc):

The purpose of the land disturbing activities on this project is to remove and replace the Jefferson Avenue Bridge over the West Branch of DuPage River, remove and replace existing utilities and roadway reconstruction.

- I. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

- J. The following is a list of receiving water(s) and the ultimate receiving water(s), and areal extent of wetland acreage at the site. The location of the receiving waters can be found on the erosion and sediment control plans:

The receiving water for runoff from this project is the DuPage River.

- K. The following pollutants of concern will be associated with this construction project:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Soil Sediment | <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Antifreeze / Coolants |
| <input checked="" type="checkbox"/> Concrete Truck Waste | <input type="checkbox"/> Waste water from cleaning construction equipment |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Solid Waste Debris | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Paints | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Solvents | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> Other (specify) |

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the contractor will be responsible for its implementation as indicated. The contractor shall provide to the resident engineer a plan for the implementation of the measures indicated. The contractor, and subcontractors, will notify the resident engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the permit. Each such contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. Erosion and Sediment Controls

1. **Stabilized Practices:** Provided below is a description of interim and permanent stabilization practices, including site specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(A)(1)(a) and II(A)(3), stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of 14 or more calendar days.
- a. Where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

The following Stabilization Practices will be used for this project:

- | | |
|---|--|
| <input type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips | <input checked="" type="checkbox"/> Sodding |
| <input checked="" type="checkbox"/> Protection of Trees | <input checked="" type="checkbox"/> Geotextiles |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Temporary Mulching | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Other (specify) |

Describe how the Stabilization Practices listed above will be utilized:

- 1) Protection of Trees/Temporary Fence: This item shall consist of "temporary fencing" as shown on the plans or directed by the Engineer and in accordance with the Illinois Department of Transportation's Standard Specifications for Road and Bridge.
- 2) Temporary Erosion Control Seeding: This item will be placed on all bare areas every seven days to minimize the amount of exposed surface areas.
- 3) Permanent Seeding: Seeding, Class 2 will be installed by Illinois Department of Transportation's Standard Specifications.
- 4) Erosion Control Blanket: This item will be installed over fill slopes and in the channel bank areas.
- 5) Sodding (Salt Tolerant): This item will be placed in all the disturbed areas adjacent to the improvement. Nitrogen, phosphorus and potassium fertilizer nutrients will be added.
- 6) Permanent Stabilization: All areas disturbed by construction will be stabilized with permanent seeding/sodding immediately following the finished grading. Erosion Control blankets will be installed over fill slopes, which have been brought to final grade and have been seeded to protect the slopes from erosion and allow seed to germinate properly.
- 7) Geotextiles: Provide geotextiles under the Rip Rap to prevent erosion.

2. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following Structural Practices will be used for this project:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier | <input checked="" type="checkbox"/> Rock Outlet Protection |
| <input type="checkbox"/> Temporary Ditch Check | <input checked="" type="checkbox"/> Riprap Class A4 and A6 |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection (Inlet Filter) | <input type="checkbox"/> Gabions |
| <input type="checkbox"/> Sediment Trap | <input type="checkbox"/> Slope Mattress |
| <input type="checkbox"/> Temporary Pipe Slope Drain | <input type="checkbox"/> Retaining Walls |
| <input type="checkbox"/> Temporary Sediment Basin | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Temporary Stream Crossing | <input type="checkbox"/> Concrete Revetment Mats |
| <input checked="" type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders |
| <input type="checkbox"/> Turf Reinforcement Mats | <input checked="" type="checkbox"/> Other (specify) Underwater
Structure Excavation Protection |
| <input type="checkbox"/> Permanent Check Dams | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Permanent Sediment Basin | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Aggregate Ditch | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Other (specify) |

Describe how the Structural Practices listed above will be utilized:

- 1) Perimeter Erosion Barrier: This item will be provided along the project construction limit to prevent sediment from washing outside the construction area.
 - 2) Storm Drain Inlet Protection (Inlet Filter): This item will be provided for the existing sewers, sediment filters will be placed in all storm structures during construction and will be cleaned on a regular basis.
 - 3) Stone Riprap Class A4 and A6: Will be placed at the storm sewer outlets as shown on the plans and maintained as directed by the Engineer.
 - 4) Underwater Structure Excavation Protection: This item will be used to prevent reintroduction of excavated material into flowing water.
 - 5) Stabilized Construction Entrance/exit: Will provide erosion protection during construction of the storm sewer outlets, piers, etc. The entrance will be provided at both sides of the bridge.
 - 6) Rock Outlet Protection: will provide erosion protection and provide energy dissipater at the flared end section.
3. **Storm Water Management:** Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.
- a. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined on the basis of the technical guidance in 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.

- b. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of Storm Water Management Controls.

The IDOT approved Phase I location Drainage Study has been utilized for the determination of Storm water Management Controls.

4. Other Controls:

- a. Vehicle Entrances and Exits – Stabilized construction entrances and exits must be constructed to prevent tracking of sediments onto roadways.

The contractor will provide the resident engineer with a written plan identifying the location of stabilized entrances and exits and the procedures (s)he will use to construct and maintain them.

- b. Material Delivery, Storage, and Use – The following BMPs shall be implemented to help prevent discharges of construction materials during delivery, storage, and use:
- All products delivered to the project site must be properly labeled.
 - Water tight shipping containers and/or semi trailers shall be used to store hand tools, small parts, and most construction materials that can be carried by hand, such as paint cans, solvents, and grease.
 - A storage/containment facility should be chosen for larger items such as drums and items shipped or stored on pallets. Such material is to be covered by a tin roof or large sheets of plastic to prevent precipitation from coming in contact with the products being stored.
 - Large items such as light stands, framing materials and lumber shall be stored in the open in a general storage area. Such material shall be elevated with wood blocks to minimize contact with storm water runoff.
 - Spill clean-up materials, material safety data sheets, an inventory of materials, and emergency contact numbers shall be maintained and stored in one designated area and each Contractor is to inform his/her employees and the resident engineer of this location.
- c. Stockpile Management – BMPs shall be implemented to reduce or eliminate pollution of storm water from stockpiles of soil and paving materials such as but not limited to portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, aggregate sub base, and pre-mixed aggregate. The following BMPs may be considered:
- Perimeter Erosion Barrier
 - Temporary Seeding
 - Erosion Control Blanket
 - Plastic Covers
 - Soil Binders
 - Storm Drain Inlet Protection (Inlet Filters)

The contractor will provide the resident engineer with a written plan of the procedures (s)he will use on the project and how they will be maintained.

- d. Waste Disposal. No materials, including building materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.
- e. The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.
- f. The contractor shall provide a written and graphic plan to the resident engineer identifying where each of the above areas will be located and how they are to be managed.

5. Approved State or Local Laws

The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual, 1995. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

Management Practices, controls and other provisions provided in this plans are in accordance with IDOT Standard Specifications for Road and Bridge Construction, the Illinois Urban Manual, SWCD Permit, USACOE Permit, 404 Permit, Floodway Permit, City of Naperville Permit and other applicable permits.

III. Maintenance:

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. The resident engineer will provide maintenance guides to the contractor for the practices associated with this project.

- 1) Protection of Trees/Temporary Fence: any protection measures which are knocked down will be repaired immediately.
- 2) Temporary Seeding: all erodible bare earth areas will be temporary seeding on a weekly basis to minimize the amount of erodible surface within the contract limits.
- 3) Erosion Control Blanket: any areas which fail will be repaired immediately.
- 4) Stone Riprap, Class A4 and A6: will be placed at the storm sewer outlets as shown on the plans and maintained as directed by the Engineer.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site. 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, use areas (storage of materials, stockpiles, machine maintenance, fueling, etc.), borrow sites, and waste sites 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. Discharge locations or points that are accessible, shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off site sediment tracking.
- B. Based on the results of the inspection, the description of potential pollutant sources identified in section I above and pollution prevention measures identified in section II 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 ½ hour to 1 week based on the urgency of the situation. The resident engineer will notify the contractor of the time required to implement such actions through the weekly inspection report.

- 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 IV(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 shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within 24 hours of the incident. The resident Engineer shall then complete and submit an "Incidence of Noncompliance" (ION) report for the identified violation within 5 days of the incident. The resident engineer shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. 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 shall be implemented to contain and clean-up spills and prevent material discharges to the 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 all of his/her employees on the proper protocol for reporting spills. 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 Washout Facilities shall be constructed for rinsing out concrete trucks. Signs shall be installed directing concrete truck drivers where designated washout facilities are located.
 - The contractor shall have the location of 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 up 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 the proper dumpsters.

- D. Vehicle and Equipment Cleaning – Vehicles and equipment are to be cleaned in designated areas only, preferably off site.
- 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 (s)he 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.

VI. Failure to Comply:

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the 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.



Contractor Certification Statement

The Resident Engineer is to make copies of this form and every contractor and sub-contractor will be required to complete their own separate form.

This certification statement is part of the Storm Water Pollution Prevention Plan for the project described below, in accordance with General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

Route FAU Route 3570 Marked Rt. Jefferson Avenue
Section 00-00116-00-BR Project No. BRM-8003 (032)
County DuPage Contract No. 83827

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. I have read and understand all of the information and requirements stated in the Storm Water Pollution Prevention Plan for the above mentioned project. I have provided all documentation required to be in compliance with the ILR10 and Storm Water Pollution Prevention Plan and will provide timely updates to these documents as necessary.

- Contractor
Sub-Contractor

Print Name
Title
Name of Firm
Street Address

Signature
Date
Telephone
City/State/ZIP

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
NOTICE OF INTENT (NOI)
GENERAL PERMIT TO DISCHARGE STORM WATER
CONSTRUCTION SITE ACTIVITIES

OWNER INFORMATION

COMPANY/ OWNER NAME: City of Naperville		OWNER TYPE: SELECT ONE City MS4 Community <input type="checkbox"/> Yes <input type="checkbox"/> No			
MAILING ADDRESS: 400 South Eagle Street		PHONE: Area Code (630) Number 420-6113 ext.			
CITY: Naperville	STATE: IL	ZIP CODE: 60566	FAX: Area Code (630) Number 305-5986		
CONTACT PERSON: Mr. Bob Kozurek			EMAIL: kozurekb@naperville.il.us		

CONTRACTOR INFORMATION

CONTRACTOR NAME:					
MAILING ADDRESS:		PHONE: Area Code () Number ext.			
CITY:		STATE:	ZIP CODE:		

CONSTRUCTION SITE INFORMATION

SELECT ONE: <input checked="" type="checkbox"/> NEW SITE <input type="checkbox"/> CHANGE OF INFORMATION FOR: ILR10										
PROJECT NAME: Jefferson Avenue over West Branch DuPage River		COUNTY: DuPage								
STREET ADDRESS/ LOCATION: Between Douglas Ave and Willoway Drive		CITY: Naperville		IL	ZIP CODE: 60566					
LATITUDE:	DEG. 41	MIN. 46	SEC. 24	LONGITUDE:	DEG. 88	MIN. 9	SEC. 54	SECTION: 13	TOWNSHIP: 38N	RANGE: 9E
APPROX CONST START DATE 01 / 02 / 2010		APPROX CONST END DATE 09 / 01 / 2010		TOTAL SIZE OF CONSTRUCTION SITE IN ACRES: <u>2.8</u> If less than 1 acre, is site part of larger common plan of development? <input type="checkbox"/> YES <input type="checkbox"/> NO						

STORM WATER POLLUTION PREVENTION PLAN INFORMATION

HAS STORM WATER POLLUTION PREVENTION PLAN BEEN SUBMITTED TO AGENCY? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (SUBMIT SWPPP ELECTRONICALLY TO: epa.constit10swppp@illinois.gov)	
WILL STORM WATER POLLUTION PREVENTION PLAN BE AVAILABLE AT SITE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
LOCATION OF SWPPP FOR VIEWING: ADDRESS: Construction Field Office	
CITY:	
SWPPP CONTACT INFORMATION: NAME:	
INSPECTOR QUALIFICATIONS: SELECT ONE P.E.	
PHONE: ()	FAX: ()
EMAIL:	
PROJECT INSPECTOR, IF DIFFERENT THAN ABOVE: NAME:	
INSPECTOR QUALIFICATIONS: SELECT ONE Other	
PHONE: ()	FAX: ()
EMAIL:	

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
NOTICE OF INTENT (NOI)
GENERAL PERMIT TO DISCHARGE STORM WATER
CONSTRUCTION SITE ACTIVITIES**

TYPE OF CONSTRUCTION (SELECT ALL THAT APPLY)

SELECT ONE Transportation	SIC Code:
TYPE DETAILED DESCRIPTION OF PROJECT: The project consists of removal and replacement of Jefferson Avenue Bridge over West Branch of DuPage River, roadway reconstruction, removal and replacement of signs, roadway lightings, sidewalk, storm sewer And drainage structures, combination of concrete curb and gutters, two pier removal, storm sewer outlet Relocation, two abutment removal, earth excavation, restoration/landscaping, pavement markings and all Incidental and all collateral work necessary to complete the project as shown on the plans.	

HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

HAS THIS PROJECT BEEN SUBMITTED TO THE FOLLOWING STATE AGENCIES TO SATISFY APPLICABLE REQUIREMENTS FOR COMPLIANCE WITH ILLINOIS LAW ON:	
HISTORIC PRESERVATION	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO http://www.illinoishistory.gov/PS/rcdocument.htm
ENDANGERED SPECIES	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO http://dnrecocat.state.il.us/ecopublic/

RECEIVING WATER INFORMATION

DOES YOUR STORM WATER DISCHARGE DIRECTLY TO: <input type="checkbox"/> WATERS OF THE STATE OR <input checked="" type="checkbox"/> STORM SEWER
OWNER TO STORM SEWER SYSTEMS: City of Naperville
NAME OF CLOSEST RECEIVING WATERBODY TO WHICH YOU DISCHARGE: West Branch DuPage River

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this 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. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

OWNER SIGNATURE: *William J. Fall*

DATE: 7/6/09

SUBMIT ELECTRONICALLY TO:
epa.constit10swppp@illinois.gov

OR MAIL COMPLETED FROM TO:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
ATTN: PERMIT SECTION
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276
www.epa.state.il.us

FOR OFFICE USE ONLY
LOG:
PERMIT NO. ILR10 _____
DATE:

Information required by this form must be provided to comply with 415 ILCS 5/39 (1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2104
WPC 623 Rev. 8/08



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

SPECIAL PROVISION
FOR
COOPERATION WITH UTILITIES

Effective: January 1, 1999
Revised: January 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.

Replace Article 105.07 of the Standard Specifications with the following:

"105.07 Cooperation with Utilities. The adjustment of utilities consists of the relocation, removal, replacement, rearrangements, reconstruction, improvement, disconnection, connection, shifting, new installation or altering of an existing utility facility in any manner.

When the plans or special provisions include information pertaining to the location of underground utility facilities, such information represents only the opinion of the Department as to the location of such utilities and is only included for the convenience of the bidder. The Department assumes no responsibility in respect to the sufficiency or the accuracy of the information shown on the plans relative to the location of the underground utility facilities.

Utilities which are to be adjusted shall be adjusted by the utility owner or the owner's representative or by the Contractor as a contract item. Generally, arrangements for adjusting existing utilities will be made by the Department prior to project construction; however, utilities will not necessarily be adjusted in advance of project construction and, in some cases, utilities will not be removed from the proposed construction limits. When utility adjustments must be performed in conjunction with construction, the utility adjustment work will be shown on the plans and/or covered by Special Provisions.

When the Contractor discovers a utility has not been adjusted by the owner or the owner's representative as indicated in the contract documents, or the utility is not shown on the plans or described in the Special Provisions as to be adjusted in conjunction with construction, the Contractor shall not interfere with said utility, and shall take proper precautions to prevent damage or interruption of the utility and shall promptly notify the Engineer of the nature and location of said utility.

All necessary adjustments, as determined by the Engineer, of utilities not shown on the plans or not identified by markers, will be made at no cost to the Contractor except traffic structures, light poles, etc., that are normally located within the proposed construction limits as hereinafter defined will not be adjusted unless required by the proposed improvement.

(a) Limits of Proposed Construction for Utilities Paralleling the Roadway. For the purpose of this Article, limits of proposed construction for utilities extending in the same longitudinal direction as the roadway, shall be defined as follows:

(1) The horizontal limits shall be a vertical plane, outside of, parallel to, and 600 mm (2 ft) distant at right angles from the plan or revised slope limits.

In cases where the limits of excavation for structures are not shown on the plans, the horizontal limits shall be a vertical plane 1.2 m (4 ft) outside the edges of structure footings or the structure where no footings are required.

(2) The upper vertical limits shall be the regulations governing the roadbed clearance for the specific utility involved.

(3) The lower vertical limits shall be the top of the utility at the depth below the proposed grade as prescribed by the governing agency or the limits of excavation, whichever is less.

(b) Limits of Proposed Construction for Utilities Crossing the Roadway. For the purpose of this Article, limits of proposed construction for utilities crossing the roadway in a generally transverse direction shall be defined as follows:

(1) Utilities crossing excavations for structures that are normally made by trenching such as sewers, underdrains, etc. and all minor structures such as manholes, inlets, foundations for signs, foundations for traffic signals, etc., the limits shall be the space to be occupied by the proposed permanent construction unless otherwise required by the regulations governing the specific utility involved.

(2) For utilities crossing the proposed site of major structures such as bridges, sign trusses, etc., the limits shall be as defined above for utilities extending in the same general direction as the roadway.

The Contractor may make arrangements for adjustment of utilities outside of the limits of proposed construction provided the Contractor furnishes the Department with a signed agreement with the utility owner covering the adjustments to be made. The cost of any adjustments made outside the limits of proposed construction shall be the responsibility of the Contractor unless otherwise provided.

The Contractor shall request all utility owners to field locate their facilities according to Article 107.31. The Engineer may make the request for location from the utility after receipt of notice from the Contractor. On request, the Engineer will make an inspection to verify that the utility company has field located its facilities, but will not assume responsibility for the accuracy of such work. The Contractor shall be responsible for maintaining the excavations or markers provided by the utility owners. This field location procedure may be waived if the utility owner has stated in writing to the Department it is satisfied the construction plans are sufficiently accurate. If the utility owner does not submit such statement to the Department, and they do not field locate their facilities in both horizontal and vertical alignment, the Engineer will authorize the Contractor in writing to proceed to locate the facilities in the most economical and reasonable manner, subject to the approval of the Engineer, and be paid according to Article 109.04.

The Contractor shall coordinate with any planned utility adjustment or new installation and the Contractor shall take all precautions to prevent disturbance or damage to utility facilities. Any failure on the part of the utility owner, or their representative, to proceed with any planned utility adjustment or new installation shall be reported promptly by the Contractor to the Engineer orally and in writing.

The Contractor shall take all necessary precautions for the protection of the utility facilities. The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Whenever any damage or destruction of a utility facility occurs as a result of work performed by the Contractor, the utility company will be immediately notified. The utility company will make arrangements to restore such facility to a condition equal to that existing before any such damage or destruction was done.

It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utilities in their present and/or adjusted positions.

No additional compensation will be allowed for any delays, inconvenience, or damage sustained by the Contractor due to any interference from the said utility facilities or the operation of relocating the said utility facilities.

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:

City of Naperville

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	Group III
> 0.16% - 0.27%	Group II	Group II	Group III
> 0.27%	Group III	Group III	Group IV

Mixture Options. Based upon the aggregate group, the following mixture options shall be used; however, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silica reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

- Group I - Mixture options are not applicable. Use any cement or finely divided mineral.
- Group II - Mixture options 1, 2, 3, 4, or 5 shall be used.
- Group III - Mixture options 1, 2 and 3 combined, 4, or 5 shall be used.

Group IV - Mixture options 1, 2 and 4 combined, or 5 shall be used.

- a) Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used.

When a coarse or fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;
A, B, C... = expansion value for that aggregate.

- b) Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow. The replacement ratio is defined as "finely divided mineral:portland cement".
- 1) Class F Fly Ash. For Class PC concrete, precast products, and PS concrete, Class F fly ash shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.
 - 2) Class C Fly Ash. For Class PC Concrete, precast products, and Class PS concrete, Class C fly ash with 18 percent to less than 26.5 percent calcium oxide content, and less than 2.0 percent loss on ignition, shall replace 20 percent of the portland cement at a minimum replacement ratio of 1:1; or at a minimum replacement ratio of 1.25:1 if the loss on ignition is 2.0 percent or greater. Class C fly ash with less than 18 percent calcium oxide content shall replace 20 percent of the portland cement at a minimum replacement ratio of 1.25:1.
 - 3) Ground Granulated Blast-Furnace Slag. For Class PC concrete, precast products, and Class PS concrete, ground granulated blast-furnace slag shall replace 25 percent of the portland cement at a minimum replacement ratio of 1:1.
 - 4) Microsilica or High Reactivity Metakaolin. Microsilica solids or high reactivity metakaolin shall be added to the mixture at a minimum 25 lb/cu yd (15 kg/cu m) or 27 lb/cu yd (16 kg/cu m) respectively.
- c) Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.60 percent. When aggregate in Group II is involved, any finely divided mineral may be used with a portland cement.
- d) Mixture Option 4. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.45 percent. When aggregate in Group II or III is involved, any finely divided mineral may be used with a portland cement.
- e) Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is ≤ 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

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)

Effective: November 2, 2006

Revised: April 1, 2009

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and pavement preservation type surface treatments. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, or joint filling/sealing.

The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

Where: CA = Cost Adjustment, \$.

BPI_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).

BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting, \$/ton (\$/metric ton).

%AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.

Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards: $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$. For HMA mixtures measured in square meters: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 24.99) / 1000$. When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different G_{mb} and % AC_V.

For bituminous materials measured in gallons: $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$

For bituminous materials measured in liters: $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

Where: A = Area of the HMA mixture, sq yd (sq m).

D = Depth of the HMA mixture, in. (mm).

G_{mb} = Average bulk specific gravity of the mixture, from the approved mix design.

V = Volume of the bituminous material, gal (L).

SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI_L and BPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Return With Bid

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**OPTION FOR
BITUMINOUS MATERIALS COST ADJUSTMENTS**

The bidder shall submit this completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments. After award, this form, when submitted, shall become part of the contract.

Contract No.: _____

Company Name: _____

Contractor's Option:

Is your company opting to include this special provision as part of the contract?

Yes

No

Signature: _____ **Date:** _____

80173

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

CONCRETE MIX DESIGNS (BDE)

Effective: April 1, 2009

Add the following to Article 1020.05(c) of the Standard Specifications:

- “(5) Performance Based Finely Divided Mineral Combination. For Class PV and SI concrete a performance based finely divided mineral combination may be used. The minimum cement factor, maximum cement factor, and water cement ratio of Article 1020.04 shall be replaced with the values below, and the performance based finely divided mineral combination herein is an alternative to Articles 1020.05(c)(1), (c)(2), (c)(3), and (c)(4). The mix design shall meet the following requirements and the Engineer may request a trial batch.
- a. The mixture shall contain a minimum of 375 lbs/cu yd (222 kg/cu m) of portland cement. For a blended cement, a sufficient amount shall be used to obtain the required 375 lbs/cu yd (222 kg/cu m) of portland cement in the mixture. For example, a blended cement stated to have 20 percent finely divided mineral, ignoring any ASTM C 595 tolerance on the 20 percent, would require a minimum of 469 lbs/cu yd (278 kg/cu m) of material in the mixture. When the mixture is designed for cement content from 375 lbs/cu yd (222 kg/cu m) to 400 lbs/cu yd (237 kg/cu m), the total of organic processing additions, inorganic processing additions, and limestone addition in the cement shall not exceed 5.0 percent.
 - b. The mixture shall contain a maximum of two finely divided minerals. The finely divided mineral in a blended cement shall count toward the total number of finely divided minerals allowed. The finely divided mineral(s) shall constitute a maximum of 35.0 percent of the total cement plus finely divided mineral(s). The fly ash portion shall not exceed 30.0 percent for Class C fly ash or 25.0 percent for Class F fly ash. The Class C and F fly ash combination shall not exceed 30.0 percent. The ground granulated blast-furnace slag portion shall not exceed 35.0 percent. The microsilica or high-reactivity metakaolin portion used together or separately shall not exceed 5.0 percent. The finely divided mineral in the blended cement shall apply to the maximum 35.0 percent, and shall be determined as discussed in a. above for determining portland cement in blended cement.
 - c. For central mixed Class PV and SI concrete, the mixture shall contain a minimum of 535 lbs/cu yd (320 kg/cu m) of cement and finely divided mineral(s) summed together, and a water-reducing admixture shall be used. The value shall be 565 lbs/cu yd (335 kg/cu m) without a water-reducing admixture.

For truck mixed or shrink mixed Class PV and SI concrete, the mixture shall contain a minimum of 575 lbs/cu yd (345 kg/cu m) of cement and finely

divided mineral(s) summed together, and a water-reducing admixture shall be used. The value shall be 605 lbs/cu yd (360 kg/cu m) without a water-reducing admixture.

- d. The mixture shall contain a maximum of 705 lbs/cu yd (418 kg/cu m) of cement and finely divided mineral(s) summed together.
- e. The mixture shall have a water/cement ratio of 0.32 – 0.44.
- f. The mixture shall not be used for placement underwater.
- g. The combination of cement and finely divided mineral(s) shall have an ASTM C 1567 expansion value ≤ 0.16 percent, and shall be 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.

If during the two year time period the Contractor needs to replace the portland cement, and the replacement portland 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. However, replacement of a blended cement with another cement will require a new ASTM C 1567 test."

80226

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

DETERMINATION OF THICKNESS (BDE)

Effective: April 1, 2009

Revise Articles 353.12 and 353.13 of the Standard Specifications to Articles 353.13 and 353.14 respectively.

Add the following Article to the Standard Specifications:

“353.12 Tolerance in Thickness. The thickness of base course pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction, bike paths, and individual locations less than 500 ft (150 m) long, will be evaluated. Temporary construction is defined as those areas constructed and removed under the same contract. If the base course cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course thickness.

The procedure described in Article 407.10(b) will be followed, except the option of correcting deficient pavement with additional lift(s) shall not apply.”

Revise Article 354.09 of the Standard Specifications to read:

“354.09 Tolerance in Thickness. The thickness of base course widening pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 3 ft (1 m) wide or 1000 ft (300 m) long, will be evaluated. Temporary construction is defined as those areas constructed and removed under the same contract. If the base course widening cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course widening thickness.

The procedure described in Article 407.10(b) will be followed, except:

- (a) The width of a unit shall be the width of the widening along one edge of the pavement.
- (b) The length of the unit shall be 1000 ft (300 m).
- (c) The option of correcting deficient pavement with additional lift(s) shall not apply.”

Revise Article 355.09 of the Standard Specifications to read:

“355.09 Tolerance in Thickness. The thickness of HMA base course pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 500 ft (150 m) long, will be evaluated according to Article 407.10(b). Temporary construction is defined as those areas constructed and removed under the same contract. If the base course cannot be cored for thickness prior to

placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course thickness.”

Revise Article 356.07 of the Standard Specifications to read:

“**356.07 Tolerance in Thickness.** The thickness of HMA base course widening pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 3 ft (1 m) wide or 1000 ft (300 m) long, will be evaluated according to Article 407.10(b) except, the width of a unit shall be the width of the widening along one edge of the pavement and the length of a unit shall be 1000 ft (300 m). Temporary locations are defined as those constructed and removed under the same contract. If the base course widening cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s) and subtract them from the measured core thickness to determine the base course widening thickness.”

Revise Article 407.10 of the Standard Specifications to read:

“**407.10 Tolerance in Thickness.** Determination of pavement thickness shall be performed after the pavement surface tests and corrective action have been completed according to Article 407.09. Pay adjustments made for pavement thickness will be in addition to and independent of those made for pavement smoothness. Pavement pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous pavement shall be evaluated with the following exclusions: temporary pavements; variable width pavements; radius returns; short lengths of contiguous pavements less than 500 ft (125 m) in length; and constant width portions of turn lanes less than 500 ft (125 m) in length. Temporary pavements are defined as pavements constructed and removed under the same contract.

The method described in Article 407.10(a), shall be used except for those pavements constructed in areas where access to side streets and entrances necessitates construction in segments less than 1000 ft (300 m). The method described in Article 407.10(b) shall be used in areas where access to side streets and entrances necessitates construction in segments less than 1000 ft (300 m).

(a) Percent Within Limits. The percent within limits (PWL) method shall be as follows.

- (1) Lots and Sublots. The pavement will be divided into approximately equal lots of not more than 5000 ft (1500 m) in length. When the length of a continuous strip of pavement is 500 ft (150 m) or greater but less than 5000 ft (1500 m), these short lengths of pavement, ramps, turn lanes, and other short sections of continuous pavement will be grouped together to form lots approximately 5000 ft (1500 m) in length. Short segments between structures will be measured continuously with the structure segments omitted. Each lot will be subdivided into ten equal sublots. The width of a subplot and lot will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.

- (2) Cores. Cores 2 in. (50 mm) in diameter shall be taken from the pavement by the Contractor, at locations selected by the Engineer. The exact location for each core will be selected at random, but will result in one core per subplot. Core locations will be specified prior to beginning the coring operations.

The Contractor and the Engineer shall witness the coring operations, as well as the measuring and recording of the core lengths. The cores will be measured with a device supplied by the Department immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples shall be disposed of according to Article 202.03.

Upon completion of each core, all water shall be removed from the hole and the hole then filled with a rapid hardening mortar or concrete. The material shall be mixed in a separate container, placed in the hole, consolidated by rodding, and struck-off flush with the adjacent pavement.

- (3) Deficient Sublot. When the length of the core in a subplot is deficient by more than ten percent of plan thickness, the Contractor may take three additional cores within that subplot at locations selected at random by the Engineer. If the Contractor chooses not to take additional cores, the pavement in that subplot shall be removed and replaced.

When the three additional cores are taken, the length of those cores will be averaged with the original core length. If the average shows the subplot to be deficient by ten percent or less, no additional action is necessary. If the average shows the subplot to be deficient by more than ten percent, the pavement in that subplot shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such deficient sublots to remain in place. For deficient sublots allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When a deficient subplot is removed and replaced, or additional lifts are placed, the corrected subplot shall be retested for thickness. The length of the new core taken in the subplot will be used in determining the PWL for the lot.

When a deficient subplot is left in place, and no additional lift(s) are placed, no payment will be made for the deficient subplot. The length of the original core taken in the subplot will be used in determining the PWL for the lot.

- (4) Deficient Lot. After addressing deficient sublots, the PWL for each lot will be determined. When the PWL of a lot is 60 percent or less, the pavement in that lot shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such deficient lots to remain in place.

For deficient lots allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When a deficient lot is removed and replaced, or additional lifts are placed, the corrected lot shall be retested for thickness. The PWL for the lot will then be recalculated based upon the new cores; however, the pay factor for the lot shall be a maximum of 100 percent.

When a deficient lot is left in place, and no additional lift(s) are placed, the PWL for the lot will not be recalculated.

- (5) Right of Discovery. When the Engineer has reason to believe the random core selection process will not accurately represent the true conditions of the work, he/she may order additional cores. The additional cores shall be taken at specific locations determined by the Engineer. The Engineer will provide notice to the Contractor containing an explanation of the reasons for his/her action. The need for, and location of, additional cores will be determined prior to commencement of coring operations.

When the additional cores show the pavement to be deficient by more than ten percent of plan thickness, more additional cores shall be taken to determine the limits of the deficient pavement and that area shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such areas of deficient pavement to remain in place. The area of deficient pavement will be defined using the length between two acceptable cores and the full width of the subplot. An acceptable core is a core with a length of at least 90 percent of plan thickness.

For deficient areas allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When an area of deficient pavement is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness.

When an area of deficient pavement is left in place, and no additional lift(s) are placed, no payment will be made for the deficient pavement.

When the additional cores show the pavement to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04.

- (6) Profile Index Adjustment. After any area of pavement is removed and replaced or any additional lifts are placed, the corrected areas shall be retested for pavement smoothness and any necessary profile index adjustments and/or corrections will be made based on these final profile readings prior to retesting for thickness.
- (7) Determination of PWL. The PWL for each lot will be determined as follows.

Definitions:

- x_i = Individual values (core lengths) under consideration
 n = Number of individual values under consideration (10 per lot)
 \bar{x} = Average of the values under consideration
 LSL = Lower Specification Limit (98% of plan thickness)
 Q_L = Lower Quality Index
 s = Sample Standard Deviation
 PWL = Percent Within Limits

Determine \bar{x} for the lot to the nearest two decimal places.

Determine s for the lot to the nearest three decimal places using:

$$s = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n-1}} \quad \text{where} \quad \sum (x_i - \bar{x})^2 = (x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + \dots + (x_{10} - \bar{x})^2$$

Determine Q_L for the lot to the nearest two decimal places using:

$$Q_L = \frac{(x - LSL)}{s}$$

Determine PWL for the lot using the Q_L and the following table. For Q_L values less than zero the value shown in the table must be subtracted from 100 to obtain PWL.

- (8) Pay Factors. The pay factor (PF) for each lot will be determined, to the nearest two decimal places, using:

$$PF \text{ (in percent)} = 55 + 0.5 (PWL)$$

If \bar{x} for a lot is less than the plan thickness, the maximum PF for that lot shall be 100 percent.

- (9) Payment. Payment of incentive or disincentive for pay items subject to the PWL method will be calculated using:

$$\text{Payment} = (((TPF/100)-1) \times CUP) \times (TOTPAVT - DEFFPAVT)$$

TPF = Total Pay Factor

CUP = Contract Unit Price
TOTPAVT = Area of Pavement Subject to Coring
DEFPAVT = Area of Deficient Pavement

The TPF for the pavement shall be the average of the PF for all the lots; however, the TPF shall not exceed 102 percent.

Area of Deficient pavement (DEFPAVT) is defined as an area of pavement represented by a subplot deficient by more than ten percent which is left in place with no additional thickness added.

Area of Pavement Subject to Coring (TOTPAVT) is defined as those pavement areas included in lots for pavement thickness determination.

PERCENT WITHIN LIMITS							
Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)
0.00	50.00	0.40	65.07	0.80	78.43	1.20	88.76
0.01	50.38	0.41	65.43	0.81	78.72	1.21	88.97
0.02	50.77	0.42	65.79	0.82	79.02	1.22	89.17
0.03	51.15	0.43	66.15	0.83	79.31	1.23	89.38
0.04	51.54	0.44	66.51	0.84	79.61	1.24	89.58
0.05	51.92	0.45	66.87	0.85	79.90	1.25	89.79
0.06	52.30	0.46	67.22	0.86	80.19	1.26	89.99
0.07	52.69	0.47	67.57	0.87	80.47	1.27	90.19
0.08	53.07	0.48	67.93	0.88	80.76	1.28	90.38
0.09	53.46	0.49	68.28	0.89	81.04	1.29	90.58
0.10	53.84	0.50	68.63	0.90	81.33	1.30	90.78
0.11	54.22	0.51	68.98	0.91	81.61	1.31	90.96
0.12	54.60	0.52	69.32	0.92	81.88	1.32	91.15
0.13	54.99	0.53	69.67	0.93	82.16	1.33	91.33
0.14	55.37	0.54	70.01	0.94	82.43	1.34	91.52
0.15	55.75	0.55	70.36	0.95	82.71	1.35	91.70
0.16	56.13	0.56	70.70	0.96	82.97	1.36	91.87
0.17	56.51	0.57	71.04	0.97	83.24	1.37	92.04
0.18	56.89	0.58	71.38	0.98	83.50	1.38	92.22
0.19	57.27	0.59	71.72	0.99	83.77	1.39	92.39
0.20	57.65	0.60	72.06	1.00	84.03	1.40	92.56
0.21	58.03	0.61	72.39	1.01	84.28	1.41	92.72
0.22	58.40	0.62	72.72	1.02	84.53	1.42	92.88
0.23	58.78	0.63	73.06	1.03	84.79	1.43	93.05
0.24	59.15	0.64	73.39	1.04	85.04	1.44	93.21
0.25	59.53	0.65	73.72	1.05	85.29	1.45	93.37
0.26	59.90	0.66	74.04	1.06	85.53	1.46	93.52
0.27	60.28	0.67	74.36	1.07	85.77	1.47	93.67
0.28	60.65	0.68	74.69	1.08	86.02	1.48	93.83
0.29	61.03	0.69	75.01	1.09	86.26	1.49	93.98
0.30	61.40	0.70	75.33	1.10	86.50	1.50	94.13
0.31	61.77	0.71	75.64	1.11	86.73	1.51	94.27
0.32	62.14	0.72	75.96	1.12	86.96	1.52	94.41
0.33	62.51	0.73	76.27	1.13	87.20	1.53	94.54
0.34	62.88	0.74	76.59	1.14	87.43	1.54	94.68
0.35	63.25	0.75	76.90	1.15	87.66	1.55	94.82
0.36	63.61	0.76	77.21	1.16	87.88	1.56	94.95
0.37	63.98	0.77	77.51	1.17	88.10	1.57	95.08
0.38	64.34	0.78	77.82	1.18	88.32	1.58	95.20
0.39	64.71	0.79	78.12	1.19	88.54	1.59	95.33

*For Q_L values less than zero, subtract the table value from 100 to obtain PWL

PERCENT WITHIN LIMITS (continued)					
Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)
1.60	95.46	2.00	98.83	2.40	99.89
1.61	95.58	2.01	98.88	2.41	99.90
1.62	95.70	2.02	98.92	2.42	99.91
1.63	95.81	2.03	98.97	2.43	99.91
1.64	95.93	2.04	99.01	2.44	99.92
1.65	96.05	2.05	99.06	2.45	99.93
1.66	96.16	2.06	99.10	2.46	99.94
1.67	96.27	2.07	99.14	2.47	99.94
1.68	96.37	2.08	99.18	2.48	99.95
1.69	96.48	2.09	99.22	2.49	99.95
1.70	96.59	2.10	99.26	2.50	99.96
1.71	96.69	2.11	99.29	2.51	99.96
1.72	96.78	2.12	99.32	2.52	99.97
1.73	96.88	2.13	99.36	2.53	99.97
1.74	96.97	2.14	99.39	2.54	99.98
1.75	97.07	2.15	99.42	2.55	99.98
1.76	97.16	2.16	99.45	2.56	99.98
1.77	97.25	2.17	99.48	2.57	99.98
1.78	97.33	2.18	99.50	2.58	99.99
1.79	97.42	2.19	99.53	2.59	99.99
1.80	97.51	2.20	99.56	2.60	99.99
1.81	97.59	2.21	99.58	2.61	99.99
1.82	97.67	2.22	99.61	2.62	99.99
1.83	97.75	2.23	99.63	2.63	100.00
1.84	97.83	2.22	99.66	2.64	100.00
1.85	97.91	2.25	99.68	≥ 2.65	100.00
1.86	97.98	2.26	99.70		
1.87	98.05	2.27	99.72		
1.88	98.11	2.28	99.73		
1.89	98.18	2.29	99.75		
1.90	98.25	2.30	99.77		
1.91	98.31	2.31	99.78		
1.92	98.37	2.32	99.80		
1.93	98.44	2.33	99.81		
1.94	98.50	2.34	99.83		
1.95	98.56	2.35	99.84		
1.96	98.61	2.36	99.85		
1.97	98.67	2.37	99.86		
1.98	98.72	2.38	99.87		
1.99	98.78	2.39	99.88		

*For Q_L values less than zero, subtract the table value from 100 to obtain PWL

(b) Minimum Thickness. The minimum thickness method shall be as follows.

- (1) Length of Units. The length of a unit will be a continuous strip of pavement 500 ft (150 m) in length.
- (2) Width of Units. The width of a unit will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.
- (3) Thickness Measurements. Pavement thickness will be based on 2 in. (50 mm) diameter cores.

Cores shall be taken from the pavement by the Contractor at locations selected by the Engineer. When determining the thickness of a unit, one core shall be taken in each unit.

The Contractor and the Engineer shall witness the coring operations, as well as the measuring and recording of the cores. Core measurements will be determined immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples may be disposed of according to Article 202.03.

Upon completion of each core, all water shall be removed from the hole and the hole then filled with a rapid hardening mortar or concrete. The material shall be mixed in a separate container, placed in the hole, consolidated by rodding, and struck-off flush with the adjacent pavement.

- (4) Unit Deficient in Thickness. In considering any portion of the pavement that is deficient, the entire limits of the unit will be used in computing the deficiency or determining the remedial action required.
- (5) Thickness Equals or Exceeds Specified Thickness. When the thickness of a unit equals or exceeds the specified plan thickness, payment will be made at the contract unit price per square yard (square meter) for the specified thickness.
- (6) Thickness Deficient by Ten Percent or Less. When the thickness of a unit is less than the specified plan thickness by ten percent or less, a deficiency deduction will be assessed against payment for the item involved. The deficiency will be a percentage of the contract unit price as given in the following table.

Percent Deficiency (of Plan Thickness)	Percent Deduction (of Contract Unit Price)
0.0 to 2.0	0
2.1 to 3.0	20
3.1 to 4.0	28
4.1 to 5.0	32
5.1 to 7.5	43
7.6 to 10.0	50

- (7) Thickness Deficient by More than Ten Percent. When a core shows the pavement to be deficient by more than ten percent of plan thickness, additional cores shall be taken on each side of the deficient core, at stations selected by the Contractor and offsets selected by the Engineer, to determine the limits of the deficient pavement. No core shall be located within 5 ft (1.5 m) of a previous core obtained for thickness determination. The first acceptable core obtained on each side of a deficient core will be used to determine the length of the deficient pavement. An acceptable core is a core with a thickness of at least 90 percent of plan thickness. The area of deficient pavement will be defined using the length between two acceptable cores and the full width of the unit. The area of deficient pavement shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such areas of deficient pavement to remain in place. For deficient areas allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When an area of deficient pavement is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness. The thickness of the new core will be used to determine the pay factor for the corrected area.

When an area of deficient pavement is left in place, and no additional lift(s) are placed, no payment will be made for the deficient pavement. In addition, an amount equal to two times the contract cost of the deficient pavement will be deducted from the compensation due the Contractor.

The thickness of the first acceptable core on each side of the core more than ten percent deficient will be used to determine any needed pay adjustments for the remaining areas on each side of the area deficient by more than ten percent. The pay adjustment will be determined according to Article 407.10(b)(6).

- (8) Right of Discovery. When the Engineer has reason to believe any core location does not accurately represent the true conditions of the work, he/she may order additional cores. These additional cores shall be taken at specific locations determined by the

Engineer. The Engineer will provide notice to the Contractor containing an explanation of the reasons for his/her action.

When the additional cores show the pavement to be deficient by more than ten percent of plan thickness, the procedures outlined in Article 407.10(b)(7) shall be followed, except the Engineer will determine the additional core locations.

When the additional cores, ordered by the Engineer, show the pavement to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04.

- (9) Profile Index Adjustment. After any area of pavement is removed and replaced or any additional lifts are added, the corrected areas shall be retested for pavement smoothness and any necessary profile index adjustments and/or corrections will be made based on these final profile readings prior to retesting for thickness.”

Revise Article 482.06 of the Standard Specifications to read:

“482.06 Tolerance in Thickness. The shoulder shall be constructed to the thickness shown on the plans. When the contract includes square yards (square meters) as the unit of measurement for HMA shoulder, thickness determinations shall be made according to Article 407.10(b)(3) and the following.

- (a) Length of the Units. The length of a unit shall be a continuous strip of shoulder 2500 ft (750 m) long.
- (b) Width of the Units. The width of the unit shall be the full width of the shoulder.
- (c) Thickness Deficient by More than Ten Percent. When a core shows the shoulder to be deficient by more than ten percent of plan thickness, additional cores shall be taken on each side of the deficient core, at stations selected by the Contractor and offsets selected by the Engineer, to determine the limits of the deficient shoulder. No core shall be located within 5 ft (1.5 m) of a previous core obtained for thickness determination. The first acceptable core obtained on each side of a deficient core will be used to determine the length of the deficient shoulder. An acceptable core is a core with a thickness of at least 90 percent of plan thickness. The area of deficient shoulder will be defined using the length between two acceptable cores and the full width of the unit. The area of deficient shoulder shall be brought to specified thickness by the addition of the applicable mixture, at no additional cost to the Department and subject to the lift thickness requirements of Article 312.05, or by removal and replacement with a new mixture. However, the surface elevation of the completed shoulder shall not exceed by more than 1/8 in. (3 mm) the surface elevation of the adjacent pavement. When requested in writing by the Contractor, the Engineer may permit in writing such thin shoulder to remain in place. When an area of thin shoulder is left in place, and no additional lift(s) are placed, no payment will be made for the thin shoulder. In addition,

an amount equal to two times the contract unit price of the shoulder will be deducted from the compensation due the Contractor.

When an area of deficient shoulder is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness.

- (d) Right of Discovery. When the Engineer has reason to believe any core location does not accurately represent the true conditions of the work, he/she may order additional cores. When the additional cores, ordered by the Engineer, show the shoulder to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04. When the additional core shows the shoulder to be less than 90 percent of plan thickness, the procedure in (c), above shall be followed."

Revise Article 483.07 of the Standard Specifications to read:

"483.07 Tolerance in Thickness. The shoulder shall be constructed to the thickness shown on the plans. Thickness determinations shall be made according to Article 482.06 except the option of correcting deficient pavement with additional lift(s) shall not apply."

80227

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 10 % 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.

ENGINEER'S FIELD OFFICE TYPE A (BDE)

Effective: April 1, 2007

Revised: August 1, 2008

Revise Article 670.02 of the Standard Specifications to read:

"670.02 Engineer's Field Office Type A. Type A field offices shall have a minimum ceiling height of 7 ft (2 m) and a minimum floor space 450 sq ft (42 sq m). The office shall be provided with sufficient heat, natural and artificial light, and air conditioning.

The office shall have an electronic security system that will respond to any breach of exterior doors and windows. Doors and windows shall be equipped with locks. Doors shall also be equipped with dead bolt locks or other secondary locking device.

Windows shall be equipped with exterior screens to allow adequate ventilation. All windows shall be equipped with interior shades, curtains, or blinds. Adequate all-weather parking space shall be available to accommodate a minimum of ten vehicles.

Suitable on-site sanitary facilities meeting Federal, State, and local health department requirements shall be provided, maintained clean and in good working condition, and shall be stocked with lavatory and sanitary supplies at all times.

Sanitary facilities shall include hot and cold potable running water, lavatory and toilet as an integral part of the office where available. Solid waste disposal consisting of two waste baskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service.

In addition, the following furniture and equipment shall be furnished.

- (a) Four desks with minimum working surface 42 x 30 in. (1.1 m x 750 mm) each and five non-folding chairs with upholstered seats and backs.
- (b) One desk with minimum working surface 48 x 72 in. (1.2 x 1.8 m) with height adjustment of 23 to 30 in. (585 to 750 mm).
- (c) One four-post drafting table with minimum top size of 37 1/2 x 48 in. (950 mm x 1.2 m). The top shall be basswood or equivalent and capable of being tilted through an angle of 50 degrees. An adjustable height drafting stool with upholstered seat and back shall also be provided.
- (d) Two free standing four drawer legal size file cabinet with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.
- (e) One 6 ft (1.8 m) folding table with six folding chairs.

- (f) One equipment cabinet of minimum inside dimension of 44 in. (1100 mm) high x 24 in. (600 mm) wide x 30 in. (750 mm) deep with lock. The walls shall be of steel with a 3/32 in. (2 mm) minimum thickness with concealed hinges and enclosed lock constructed in such a manner as to prevent entry by force. The cabinet assembly shall be permanently attached to a structural element of the field office in a manner to prevent theft of the entire cabinet.
- (g) One refrigerator with a minimum size of 16 cu ft (0.45 cu m) with a freezer unit.
- (h) One electric desk type tape printing calculator.
- (i) A minimum of two communication paths. The configuration shall include:
 - (1) Internet Connection. An internet service connection using telephone DSL, cable broadband, or CDMA wireless technology. Additionally, an 802.11g/N wireless router shall be provided, which will allow connection by the Engineer and up to four Department staff.
 - (2) Telephone Lines. Three separate telephone lines.
- (j) One plain paper copy machine capable of reproducing prints up to 11 x 17 in. (280 x 432 mm) with an automatic feed tray capable of storing 30 sheets of paper. Letter size and 11 x 17 in. (280 x 432 mm) paper shall be provided.
- (k) One plain paper fax machine with paper.
- (l) Two telephones, with touch tone, where available, and a digital telephone answering machine, for exclusive use by the Engineer.
- (m) One electric water cooler dispenser.
- (n) One first-aid cabinet fully equipped.
- (o) One microwave oven, 1 cu ft (0.03 cu m) minimum capacity.
- (p) One fire-proof safe, 0.5 cu ft (0.01 cu m) minimum capacity.
- (q) One electric paper shredder.
- (r) One post mounted rain gauge, located on the project site for each 5 miles (8 km) of project length."

Revise the first sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

"The building or buildings fully equipped as specified will be paid for on a monthly basis until the building or buildings are released by the Engineer."

Revise the last sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

"This price shall include all utility costs and shall reflect the salvage value of the building or buildings, equipment, and furniture which become the property of the Contractor after release by the Engineer, except that the Department will pay that portion of the monthly long distance telephone bills that, when combined, exceed \$150."

80179

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.

FHWA hourly rate = (monthly rate/176) x (model year adj.) x (Illinois adj.) + 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

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	All Other
	VMA"	

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 Gyrotory 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

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

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

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

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

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 µm	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.

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 Plugs1042.16”

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

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 550.02 of the Standard Specifications:

“(o) Handling Hole Plugs.....1042.16”

Replace the fourth sentence of the fifth paragraph of Article 550.06 of the Standard Specifications with the following:

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 602.02 of the Standard Specifications:

“(p) Handling Hole Plugs.....1042.16(a)”

Replace the fifth sentence of the first paragraph of Article 602.07 of the Standard Specifications with the following:

“Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.”

Add the following to Section 1042 of the Standard Specifications:

“**1042.16 Handling Hole Plugs.** Plugs for handling holes in precast concrete products shall be as follows.

- (a) Precast Concrete Plug. The precast concrete plug shall have a tapered shape and shall have a minimum compressive strength of 3000 psi (20,700 kPa) at 28 days.
- (b) Polyethylene Plug. The polyethylene plug shall have a “mushroom” shape with a flat round top and a stem with three different size ribs. The plug shall fit snugly and cover the handling hole.

The plug shall be according to the following.

Mechanical Properties	Test Method	Value (min.)
Flexural Modulus	ASTM D 790	3300 psi (22,750 kPa)
Tensile Strength (Break)	ASTM D 638	1600 psi (11,030 kPa)
Tensile Strength (Yield)	ASTM D 638	1200 psi (8270 kPa)

Thermal Properties	Test Method	Value (min.)
Brittle Temperature	ASTM D 746	-49 °F (-45 °C)
Vicat Softening Point	ASTM D 1525	194 °F (90 °C)”

80171

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

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

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

STORM SEWERS (BDE)

Effective: April 1, 2009

Add the following to Article 550.02 of the Standard Specifications:

- “(p) Polyvinyl Chloride (PVC) Profile Wall Pipe-304 1040.03
- “(q) Polyethylene (PE) Pipe with a Smooth Interior 1040.04
- “(r) Corrugated Polyethylene (PE) Pipe with a Smooth Interior 1040.04
- “(s) Polyethylene (PE) Profile Wall Pipe 1040.04”

Add the following to the list of flexible pipes under Class B storm sewers in the first table of Article 550.03 of the Standard Specifications:

- “Polyvinyl Chloride (PVC) Profile Wall Pipe-304
- Polyethylene (PE) Pipe with a Smooth Interior
- Corrugated Polyethylene (PE) Pipe with a Smooth Interior
- Polyethylene (PE) Profile Wall Pipe”

Revise the 2nd - 7th tables of Article 550.03 of the Standard Specifications to read:

"STORM SEWERS KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE																				
Nom. Dia. in.	Type 1 Fill Height: 3' and less with 1' minimum cover										Type 2 Fill Height: Greater than 3', not exceeding 10'									
	RCCP Class	CSP Class	ESCP	PVC	CPVC	PVCPW -794	PVCPW -304	PE	CPE	PEPW	RCCP Class	CSP Class	ESCP	PVC	CPVC	PVCPW -794	PVCPW -304	PE	CPE	PEPW
10	NA	3	X	X	NA	NA	X	NA	NA	NA	NA	1	*X	X	**	NA	NA	X	NA	NA
12	IV	NA	NA	X	X	X	X	X	X	NA	III	1	*X	X	X	X	X	X	X	NA
15	IV	NA	NA	X	X	X	X	NA	X	NA	III	2	X	X	X	X	X	NA	X	NA
18	IV	NA	NA	X	X	X	X	X	X	X	III	2	X	X	X	X	X	X	X	X
21	IV	NA	NA	X	X	X	X	NA	NA	X	III	2	X	X	X	X	X	NA	NA	X
24	IV	NA	NA	X	X	X	X	X	X	X	III	2	X	X	X	X	X	X	X	X
27	IV	NA	NA	X	X	X	X	X	X	X	III	NA	X	X	X	X	X	X	X	X
30	III	NA	X	X	X	X	X	X	X	X	III	NA	X	X	X	X	X	X	X	X
33	III	NA	X	X	NA	X	X	X	X	X	III	NA	X	X	NA	X	X	X	X	X
36	III	NA	X	X	X	X	X	X	X	X	III	NA	X	X	X	X	X	X	X	X
42	II	NA	NA	NA	NA	X	X	X	X	X	III	NA	NA	NA	NA	X	X	X	X	X
48	II	NA	NA	NA	NA	X	X	X	X	X	III	NA	NA	NA	NA	X	X	X	X	X
54	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA	NA	NA
60	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
66	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
72	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
78	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
84	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
90	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
96	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
102	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
108	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA

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- PVCPW-794 Polyvinyl Chloride (PVC) Profile Wall Pipe-794
- PVCPW-304 Polyvinyl Chloride (PVC) Profile Wall Pipe-304

PE Polyethylene (PE) Pipe with a Smooth Interior
 CPE Corrugated Polyethylene (PE) Pipe with a Smooth Interior
 PEPW Polyethylene (PE) Profile Wall Pipe
 X This material may be used for the given pipe diameter and fill height.
 NA This material is Not Acceptable for the given pipe diameter and fill height.
 * May also use standard strength Clay Sewer Pipe
 ** May be used if Bureau of Materials and Physical Research approves and with manufacturer's certification.

STORM SEWERS KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE														
Nom. Dia. in.	Type 3 Fill Height: Greater than 10', not exceeding 15'									Type 4 Fill Height: Greater than 15', not exceeding 20'				
	RCCP Class	CSP Class	ESCP	PVC	CPVC	PVCPW -794	PVCPW -304	PE	PEPW	RCCP Class	PVC	CPVC	PVCPW -794	PVCPW -304
10	NA	3	X	X	**	NA	NA	X	NA	NA	X	**	NA	NA
12	IV	NA	X	X	X	X	X	X	NA	V	X	X	X	X
15	IV	NA	NA	X	X	X	X	NA	NA	V	X	X	X	X
18	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
21	IV	NA	NA	X	X	X	X	NA	X	V	X	X	X	X
24	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
27	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
30	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
33	IV	NA	NA	X	NA	X	X	X	X	IV	X	NA	X	X
36	IV	NA	NA	X	X	X	X	X	X	IV	X	X	X	X
42	IV	NA	NA	NA	NA	X	X	X	X	IV	NA	NA	X	X
48	IV	NA	NA	NA	NA	X	X	X	X	IV	NA	NA	X	X
54	IV	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
60	IV	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
66	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
72	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
78	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
84	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
90	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
96	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
102	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
108	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA

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 PE Polyethylene (PE) Pipe with a Smooth Interior
 PEPW Polyethylene (PE) Profile Wall Pipe
 X This material may be used for the given pipe diameter and fill height.
 NA This material is Not Acceptable for the given pipe diameter and fill height.
 ** May be used if Bureau of Materials and Physical Research approves and with manufacturer's certification.

STORM SEWERS
KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED
FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE

Nom. Dia. in.	Type 5 Fill Height: Greater than 20', not exceeding 25'					Type 6 Fill Height: Greater than 25', not exceeding 30'					Type 7 Fill Height: Greater than 30', not exceeding 35'	
	RCCP Class	PVC	CPVC	PVCPW -794	PVCPW -304	RCCP Class	PVC	CPVC	PVCPW -794	PVCPW -304	RCCP Class	PVC
10	NA	X	**	NA	NA	NA	X	**	NA	NA	NA	X
12	V-3160D	X	X	X	X	V-3790D	X	X	X	X	V-4000D	X
15	V-3080D	X	X	X	X	V-3390D	X	NA	NA	NA	V-3575D	X
18	V	X	X	X	X	V-3115D	X	NA	NA	NA	V-3300D	X
21	V	X	X	X	X	V	X	NA	NA	NA	V-3110D	X
24	V	X	X	X	X	V	X	NA	NA	NA	V	X
27	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
30	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
33	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
36	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
42	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
48	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
54	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
60	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
66	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
72	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
78	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
84	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
90	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
96	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
102	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
108	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA

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- PVCPW-794 Polyvinyl Chloride (PVC) Profile Wall Pipe-794
- PVCPW-304 Polyvinyl Chloride (PVC) Profile Wall Pipe-304
- X This material may be used for the given pipe diameter and fill height.
- NA This material is Not Acceptable for the given pipe diameter and fill height.
- ** May be used if Bureau of Materials and Physical Research approves and with manufacturer's certification.
- Note RCCP Class V - 3160D, etc. shall be furnished according to AASHTO M 170 Section 6.
 These loads are D loads to produce a 0.01 in. crack.

STORM SEWERS (metric)
KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED
FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE

Nom. Dia. mm	Type 1 Fill Height: 1 m and less with 0.3 m minimum cover										Type 2 Fill Height: Greater than 1 m, not exceeding 3 m									
	RCCP	CSP	ESCP	PVC	CPVC	PVCPW	PVCPW	PE	CPE	PEPW	RCCP	CSP	ESCP	PVC	CPVC	PVCPW	PVCPW	PE	CPE	PEPW
	Class	Class				-794	-304				Class	Class				-794	-304			
250	NA	3	X	X	NA	NA	NA	X	NA	NA	NA	1	*X	X	**	NA	NA	X	NA	NA
300	IV	NA	NA	X	X	X	X	X	X	NA	III	1	*X	X	X	X	X	X	X	NA
375	IV	NA	NA	X	X	X	X	NA	X	NA	III	2	X	X	X	X	NA	X	NA	
450	IV	NA	NA	X	X	X	X	X	X	X	III	2	X	X	X	X	X	X	X	X
525	IV	NA	NA	X	X	X	X	NA	NA	X	III	2	X	X	X	X	NA	NA	X	X
600	IV	NA	NA	X	X	X	X	X	X	X	III	2	X	X	X	X	X	X	X	X
675	IV	NA	NA	X	X	X	X	X	X	X	III	NA	X	X	X	X	X	X	X	X
750	III	NA	X	X	X	X	X	X	X	X	III	NA	X	X	X	X	X	X	X	X
825	III	NA	X	X	NA	X	X	X	X	X	III	NA	X	X	NA	X	X	X	X	X
900	III	NA	X	X	X	X	X	X	X	X	III	NA	X	X	X	X	X	X	X	X
1050	II	NA	NA	NA	NA	X	X	X	X	X	III	NA	NA	NA	NA	X	X	X	X	X
1200	II	NA	NA	NA	NA	X	X	X	X	X	III	NA	NA	NA	NA	X	X	X	X	X
1350	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA	NA	NA
1500	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
1650	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
1800	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
1950	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
2100	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
2250	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
2400	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
2550	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA
2700	I	NA	NA	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA	NA	NA

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- PE Polyethylene (PE) Pipe with a Smooth Interior
- CPE Corrugated Polyethylene (PE) Pipe with a Smooth Interior
- PEPW Polyethylene (PE) Profile Wall Pipe
- X This material may be used for the given pipe diameter and fill height.
- NA This material is Not Acceptable for the given pipe diameter and fill height.
- * May also use standard strength Clay Sewer Pipe
- ** May be used if Bureau of Materials and Physical Research approves and with manufacturer's certification.

STORM SEWERS (metric)														
KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE														
Nom. Dia. mm	Type 3 Fill Height: Greater than 3 m, not exceeding 4.5 m									Type 4 Fill Height: Greater than 4.5 m, not exceeding 6 m				
	RCCP Class	CSP Class	ESCP	PVC	CPVC	PVCPW -794	PVCPW -304	PE	PEPW	RCCP Class	PVC	CPVC	PVCPW -794	PVCPW -304
250	NA	3	X	X	**	NA	NA	X	NA	NA	X	**	NA	NA
300	IV	NA	X	X	X	X	X	X	NA	V	X	X	X	X
375	IV	NA	NA	X	X	X	X	NA	NA	V	X	X	X	X
450	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
525	IV	NA	NA	X	X	X	X	NA	X	V	X	X	X	X
600	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
675	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
750	IV	NA	NA	X	X	X	X	X	X	V	X	X	X	X
825	IV	NA	NA	X	NA	X	X	X	X	IV	X	NA	X	X
900	IV	NA	NA	X	X	X	X	X	X	IV	X	X	X	X
1050	IV	NA	NA	NA	NA	X	X	X	X	IV	NA	NA	X	X
1200	IV	NA	NA	NA	NA	X	X	X	X	IV	NA	NA	X	X
1350	IV	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
1500	IV	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
1650	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
1800	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
1950	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
2100	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
2250	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
2400	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
2550	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA
2700	III	NA	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA

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- PVCPW-304 Polyvinyl Chloride (PVC) Profile Wall Pipe-304
- PE Polyethylene (PE) Pipe with a Smooth Interior
- PEPW Polyethylene (PE) Profile Wall Pipe
- X This material may be used for the given pipe diameter and fill height.
- NA This material is Not Acceptable for the given pipe diameter and fill height.
- ** May be used if Bureau of Materials and Physical Research approves and with manufacturer's certification.

STORM SEWERS (metric) KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE												
Nom. Dia. mm	Type 5 Fill Height: Greater than 6 m, not exceeding 7.5 m					Type 6 Fill Height: Greater than 7.5 m, not exceeding 9 m					Type 7 Fill Height: Greater than 9 m, not exceeding 10.5 m	
	RCCP Class	PVC	CPVC	PVCPW -794	PVCPW -304	RCCP Class	PVC	CPVC	PVCPW -794	PVCPW -304	RCCP Class	PVC
250	NA	X	**	NA	NA	NA	X	**	NA	NA	NA	X
300	V-150D	X	X	X	X	V-180D	X	X	X	X	V-190D	X
375	V-145D	X	X	X	X	V-160D	X	NA	NA	NA	V-170D	X
450	V	X	X	X	X	V-150D	X	NA	NA	NA	V-160D	X
525	V	X	X	X	X	V	X	NA	NA	NA	V-150D	X
600	V	X	X	X	X	V	X	NA	NA	NA	V	X
675	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
750	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
825	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
900	V	X	NA	NA	NA	V	X	NA	NA	NA	V	X
1050	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
1200	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
1350	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
1500	V	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
1650	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
1800	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
1950	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
2100	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
2250	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
2400	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
2550	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA
2700	IV	NA	NA	NA	NA	V	NA	NA	NA	NA	V	NA

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- PVCPW-304 Polyvinyl Chloride (PVC) Profile Wall Pipe-304
- X This material may be used for the given pipe diameter and fill height.
- NA This material is Not Acceptable for the given pipe diameter and fill height.
- ** May be used if Bureau of Materials and Physical Research approves and with manufacturer's certification.
- Note RCCP Class V - 150D, etc. shall be furnished according to AASHTO M 170M Section 6. These loads are D loads to produce a 0.3 mm crack."

Revise the last paragraph of Article 550.06 of the Standard Specifications to read:

"PVC and PE pipes shall be joined according to the manufacturer's specifications."

Revise the second paragraph of Article 550.07 of the Standard Specifications to read:

"When using flexible pipe, as listed in the first table of Article 550.03, the aggregate shall be continued to a height of at least 1 ft (300 mm) above the top of the pipe and compacted to a minimum of 95 percent of standard lab density by mechanical means."

Revise Article 550.08 of the Standard Specifications to read:

550.08 Deflection Testing for Storm Sewers. All PVC and PE storm sewers shall be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted. The testing shall be performed in the presence of the Engineer.

For PVC and PE storm sewers with diameters 24 in. (600 mm) or smaller, a mandrel drag shall be used for deflection testing. For PVC and PE storm sewers with diameters over 24 in. (600 mm), deflection measurements other than by a mandrel drag shall be used.

Where the mandrel is used, the mandrel shall be furnished by the Contractor and pulled by hand through the pipeline with a suitable rope or cable connected to each end. Winching or other means of forcing the deflection gauge through the pipeline will not be allowed.

The mandrel shall be of a shape similar to that of a true circle enabling the gauge to pass through a satisfactory pipeline with little or no resistance. The mandrel shall be of a design to prevent it from tipping from side to side and to prevent debris build-up from occurring between the channels of the adjacent fins or legs during operation. Each end of the core of the mandrel shall have fasteners to which the pulling cables can be attached. The mandrel shall have nine, various sized fins or legs of appropriate dimension for various diameter pipes. Each fin or leg shall have a permanent marking that states its designated pipe size and percent of deflection allowable.

The outside diameter of the mandrel shall be 95 percent of the base inside diameter. For all PVC pipe and PE Profile Wall pipe, the base inside diameter shall be defined using ASTM D 3034 methodology. For all other PE pipe, the base inside diameter shall be defined as the average inside diameter based on the minimum and maximum tolerances specified in the corresponding ASTM or AASHTO material specifications.

If the pipe is found to have a deflection greater than that specified, that pipe section shall be removed, replaced, and retested."

Revise Article 1040.04(b) of the Standard Specifications to read:

"(b) Corrugated PE Pipe with a Smooth Interior. The pipe shall be according to AASHTO M 294 (nominal size – 12 to 48 in. (300 to 1200 mm)). The pipe shall be Type S or D."

Revised the first and second paragraphs of Article 1040.04(c) to read:

"(c) PE Profile Wall Pipe. The pipe shall be according to ASTM F 894 and shall have a minimum ring stiffness constant of 160. The pipe shall also have a minimum cell classification of PE 334433C as defined in ASTM D 3350.

(1) Pipe Culverts and Storm Sewers. When used for pipe culverts and storm sewers, the section properties shall be according to AASHTO's Section 17. The manufacturer shall submit written certification that the material meets AASHTO's Section 17 properties."

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 (TiO₂). 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 ± 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 ± 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

CLEANING AND PAINTING NEW METAL STRUCTURES

Effective Date: September 13, 1994

Revised Date: May 11, 2009

Description. The material and construction requirements that apply to cleaning and painting new structural steel shall be according to the applicable portion of Sections 506 of the Standard Specifications except as modified herein. The three coat paint system shall be the system as specified on the plans and as defined herein. Unless stated otherwise, requirements imposed on the "Contractor" in this specification apply to both the shop painting contractor and the field painting contractor.

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

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

<u>Item</u>	<u>Article</u>
(a) Inorganic Zinc-Rich Primer	1008.02
(b) Waterborne Acrylic	1008.04
(c) Aluminum Epoxy Mastic	1008.03
(d) Organic Zinc-Rich Primer (Note 1)	
(e) Epoxy Intermediate (Note 1)	
(f) Aliphatic Urethane (Note 1)	

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

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

- a) Contractor Shop Qualifications. Except for miscellaneous steel items such as bearings, side retainers, expansion joint devices, and other items allowed by the Engineer, or unless stated otherwise in the contract, the shop painting Contractors shall be certified to perform the work as follows: the shop painting Contractor shall possess AISC Sophisticated Paint Endorsement or SSPC-QP3 certification. Evidence of current qualifications shall be provided.
- b) Contractor Field Qualifications. When indicated on the contract plans, the field painting contractor shall possess current SSPC QP1 certification. Evidence of current qualifications shall be provided. The Contractor shall maintain certified status throughout the duration of the painting work under the contract. The Department reserves the right to accept

Contractors documented to be currently enrolled in the SSPC-QP7, Painting Contractor Introductory Program, in lieu of the QP certifications noted above.

- c) QC Personnel Qualifications. Personnel managing the shop and field Quality Control program(s) for this work shall possess a minimum classification as a National Association of Corrosion Engineers (NACE) Coating Inspector Level 2-Certified, or shall provide evidence of successful inspection of 3 projects of similar or greater complexity and scope that have been completed in the last 2 years. Copies of the certification and/or experience shall be provided, including names, addresses and telephone numbers of contact persons employed by the bridge owner.

The personnel performing the QC tests for this work shall be trained in coatings inspection and the use of the testing instruments. Documentation of training shall be provided. The QC personnel shall not perform hands on surface preparation or paint activities unless otherwise approved by the Engineer. Painters shall perform wet film thickness measurements, with QC personnel conducting random spot checks of the wet film. The Contractor shall not replace the QC personnel assigned to the project without advance notice to the Engineer, and acceptance of the replacement(s), by the Engineer.

- d) Quality Control (QC) Program. The shop and field QC Programs shall identify the following; the instrumentation that will be used, a schedule of required measurements and observations, procedures for correcting unacceptable work, and procedures for improving surface preparation and painting quality as a result of quality control findings. The shop program shall include a copy of the quality control form(s) that will be completed daily. The field program shall incorporate the IDOT Quality Control Daily Report form, as supplied by the Engineer.
- e) Field Cleaning and Painting Inspection Access Plan. The inspection access plan for use by Contractor QC personnel for ongoing inspections and by the Engineer during Quality Assurance (QA) observations.
- f) Surface Preparation/Painting Plan. The surface preparation/painting plan shall include the methods of surface preparation and type of equipment to be utilized for solvent cleaning, abrasive blast cleaning, washing, and power tool cleaning. The plan shall include the manufacturer's names of the materials that will be used, including Product Data Sheets and Material Safety Data Sheets (MSDS).

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

Quality Control (QC) Inspections. The Contractor shall perform first line, in process QC inspections of each phase of the work. The submitted and accepted QC Program(s) shall be used to insure that the work accomplished complies with these specifications. The shop painting Contractor shall use their forms as supplied in their submittal. These shop reports shall

be made available for review when requested by the Engineer. The field painting Contractor shall use the IDOT Quality Control Daily Report form supplied by the Engineer to record the results of quality control tests. These field reports shall be turned into the Engineer before work resumes the following day.

The Contractor shall supply all necessary equipment to perform the QC inspections. Equipment shall include the following at a minimum:

- Psychrometer or comparable equipment for the measurement of dew point and relative humidity, together with all necessary weather bureau tables or psychrometric charts.
- Surface temperature thermometer.
- Bresle Cell Kits or CHLOR*TEST kits for chloride determinations, or equivalent.(only required when erected steel is exposed through the winter prior to field painting.)
- Wet Film Thickness Gage.
- Blotter paper for compressed air cleanliness checks.
- Type 2 Magnetic Dry Film Thickness Gage per SSPC - PA2.
- Calibration standards for dry film thickness gage.
- Light meter for measuring light intensity during cleaning, painting, and inspection activities.
- All applicable ASTM and SSPC Standards used for the work.
- Commercially available putty knife of a minimum thickness of 40 mils (1 mm) and a width between 1 and 3 in. (25 and 75 mm). Note that the putty knife is only required in touch-up areas where the coating is being feathered and must be tested with a dull putty knife.

The instruments shall be calibrated by the Contractor's personnel according to the equipment manufacturer's recommendations and the Contractor's QC Program. All inspection equipment shall be made available to the Engineer for QA observations on an as needed basis.

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

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

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

When the surface to be inspected is more than 6 ft. (1.8 m) above the ground or water surface, and fall protection is not provided (e.g. guardrails) the Contractor shall provide the Engineer with a safety harness and a lifeline according to OSHA regulations. The lifeline and attachment shall not direct the fall into oncoming traffic. The Contractor shall provide a method of attaching the lifeline to the structure independent of the inspection facility or any support of the platform. When the inspection facility is more than 2 1/2 ft. (800 mm) above the ground, the Contractor shall provide an approved means of access onto the platform.

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

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

The Contractor shall comply with the provisions of the Illinois Environmental Protection Act. Paint drips, spills, and overspray are not permitted to escape into the air or onto any other surfaces or surrounding property not intended to be painted. Containment shall be used to control paint drips, spills, and overspray, and shall be dropped and all equipment secured when sustained wind speeds of 40 mph (64 kph) or greater occur, unless the containment design necessitates action at lower wind speeds. When the containment needs to be attached to the structure, it shall be attached by clamping or similar means. Welding or drilling into the structure shall be prohibited unless otherwise approved by the Engineer in writing. The Contractor shall evaluate project-specific conditions to determine the specific type and extent of containment needed to control the paint emissions and shall submit a plan for containing or controlling paint debris (droplets, spills, overspray, etc.) to the Engineer for approval prior to starting the work. Approval shall not relieve the Contractor of their ultimate responsibility for controlling paint debris from escaping the work zone.

Hold Point Notification for Field Painting. Specific inspection items throughout this specification are designated as Hold Points. Unless other arrangements are made at the project site, the Contractor shall provide the Engineer with a minimum 4-hour notification before a Hold Point inspection will be reached. If the 4-hour notification is provided and the Work is ready for inspection at that time, the Engineer will conduct the necessary observations. If the Work is not ready at the appointed time, unless other arrangements are made, an additional 4-hour notification is required. Permission to proceed beyond a Hold Point without a QA inspection will be granted solely at the discretion of the Engineer, and only on a case by case basis. The Engineer has the right to reject any work that was performed without adequate provision for QA observations

Field Surface Preparation (HOLD POINT). The following processes shall be used to prepare the shop-coated steel surfaces for field painting.

1. Low Pressure Water Cleaning and Solvent Cleaning. The Contractor shall notify the Engineer 24 hours in advance of beginning surface preparation operations.

Washing shall involve the use of potable water at a minimum of 1000 psi (7 MPa) and less than 5000 psi (34 MPa) according to "Low Pressure Water Cleaning" of SSPCSP12. Paint spray equipment shall not be used to perform the water cleaning. The cleaning shall be performed in such a manner as to remove dust, dirt, chalk, insect and animal nests, bird droppings, and other foreign matter prior to solvent cleaning.

If detergents or other additives are added to the water, the detergents/additives shall be included in the submittals and not used until accepted by the Engineer. When detergents or additives are used, the surface shall be rinsed with potable water before the detergent water dries.

After washing has been accepted by the Engineer, all traces of asphaltic cement, oil, grease, diesel fuel deposits, and other soluble contaminants which remain on the steel surfaces to be painted shall be removed according to SSPC – SP1 Solvent Cleaning, supplemented with scraping (e.g., to remove large deposits of asphaltic cement) as required. The solvent(s) used for cleaning shall be compatible with the primer. The Contractor shall identify the proposed solvent(s) in the submittals. If the primer is softened, wrinkled, or shows other signs of attack from the solvents, the Contractor shall immediately discontinue their use. The name and composition of replacement solvents, together with MSDS, shall be submitted for Engineer acceptance prior to use. If solvent cleaning/scraping is not successful in removing the foreign matter, the Contractor shall use other methods identified in SP1, such as steam cleaning as necessary.

2. Water Cleaning Between Coats. When foreign matter has accumulated on a newly applied coat, washing shall be performed prior to the application of subsequent coats.
3. Power Tool Cleaning of Shop-Coated Steel. Damaged and rusted areas shall be spot cleaned according Power Tool Cleaning SSPC-SP3 (Modified). The edges of the coating surrounding the spot repairs shall be feathered. A power tool cleaned surface shall be free of all loose rust, loose and peeling paint, and loose rust that is bleeding through and/or penetrating the coating. All locations of visible corrosion and rust bleed, and lifting or loose paint shall be prepared using the power tools.

Upon completion of the cleaning, rust, rust bleed, and surrounding paint are permitted to remain if they cannot be lifted using a dull putty knife.

Field Soluble Salt Remediation (HOLD POINT). If the erected steel is exposed to winter weather prior to field painting, the Contractor shall implement surface preparation procedures and processes that will remove chloride from the surfaces prior to field painting. Surfaces that

may be contaminated with chloride include, but are not limited to, expansion joints and all areas that are subject to roadway splash or run off such as fascia beams and stringers.

Methods of chloride removal may include, but are not limited to, steam cleaning or pressure washing with or without the addition of a chemical soluble salt remover as approved by the coating manufacturer, and scrubbing before or after initial paint removal. The water does not need to be collected. The Contractor shall provide the proposed procedures for chloride remediation in the Surface Preparation/Painting Plan.

Upon completion of the chloride remediation steps, the Contractor shall use cell methods of field chloride extraction and test procedures (e.g., silver dichromate) accepted by the Engineer, to test representative surfaces for the presence of remaining chlorides. Remaining chloride levels shall be no greater than $7\mu\text{g}/\text{sq cm}$ as read directly from the surface without any multiplier applied to the results. The testing must be performed, and the results must be acceptable.

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

Prepared surfaces, shall meet the requirements of the respective degrees of cleaning immediately prior to painting, and shall be painted before rusting appears on the surface. If rust appears or bare steel remains unpainted for more than 12 hours, the affected area shall be prepared again at the expense of the Contractor.

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

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

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

Inorganic Zinc-rich/ Waterborne Acrylic Paint system. This system shall be for shop and field application of the coating system. Shop application of the intermediate and top coats will not be allowed.

In the shop, all structural steel designated to be painted shall be given one coat of inorganic zinc rich primer. In the field, before the application of the intermediate coat, the prime coat and any

newly installed fasteners shall be spot solvent cleaned per SSPC-SP 1 and all surfaces pressure washed as specified above. All damaged shop primed areas shall be spot cleaned per SSPC-SP3 Modified, All damaged areas and all installed fasteners shall be fully primed with aluminum epoxy mastic. The structural steel shall then receive one full intermediate coat and one full topcoat of waterborne acrylic paint.

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

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

- b) The pressure washing requirement above may be waived if the QC and QA Inspectors verify the primed surfaces have not been contaminated.
- d) Damage to the completed paint system shall be spot cleaned using SSPC-SP3 (Modified). The cleaned areas shall be spot painted with a penetrating sealer as recommended by the manufacturer, which shall overlap onto the existing topcoat. Then the aluminum epoxy mastic shall be spot applied not to go beyond the area painted with the sealer. The acrylic intermediate and topcoat shall be spot applied to the mastic with at least a 6 inch (150 mm) overlap onto the existing topcoat.

Organic Zinc-Rich/ Epoxy/ Urethane Paint System. This system shall be for full shop application of the coating system, or when specified on the plans, for the application of two coats in the shop with the finish coat applied in the field. All contact surfaces shall be masked off prior to shop-application of the intermediate and top coats.

In addition to the requirements of Section 3.2.9 of the AASHTO/AWS D1.5/D1.5:2002 Bridge Welding Code (breaking thermal cut corners of stress carrying members), rolled and thermal cut corners to be painted with organic zinc primer shall be broken if they are sharper than a 1/16 in. (1.5 mm) radius. Corners shall be broken by a single pass of a grinder or other suitable device at a 45 degree angle to each adjoining surface prior to final blast cleaning, so the resulting corner approximates a 1/16 in. (1.5 mm) or larger radius after blasting. Surface anomalies (burrs, fins, deformations) shall also be treated to meet this criteria before priming.

In the shop, all structural steel designated to be painted shall be given one coat of organic zinc rich primer, one coat of epoxy intermediate, and unless stated otherwise in the plans, one coat of urethane finish. Before the application of the field coats, the shop coats and any newly installed fasteners shall be spot solvent cleaned per SSPC-SP 1 and all surfaces pressure washed as specified above to remove dirt, oil, lubricants, oxidation products, and foreign substances. All damaged shop coated areas shall then be spot cleaned per SSPC-SP3 (Modified). The surrounding coating at each repair location shall be feathered for a minimum distance of 1 1/2 in. (40 mm) to achieve a smooth transition between the prepared areas and

the existing coating. The existing coating in the feathered area shall be roughened to insure proper adhesion of the repair coats.

All damaged areas and all newly installed fasteners shall be fully primed with epoxy mastic. One intermediate coat of epoxy shall be applied over the epoxy mastic and on exposed shop primer. One topcoat of aliphatic urethane shall be applied to all areas where the intermediate coat is visible, whether the intermediate coat was applied in the shop or in the field. The field applied coats shall only overlap onto the existing finish coat where sanding has been performed.

When the plans require the urethane coat to be applied in the field, the maximum recoat time for the intermediate coat shall be observed. If the recoat time for the intermediate coat is exceeded, the Contractor shall remove the shop-applied system, or submit for approval by the Engineer, written recommendations from the coating manufacturer for the procedures necessary to extend that recoat window or otherwise prepare the intermediate coat to receive the finish.

- (a) Coating Dry Film Thickness (dft), measured according to SSPC-PA2:
 - Organic Zinc-Rich Primer: 3 mils (75 microns) min., 5 mils (125 microns) max.
 - Aluminum Epoxy Mastic (spot coat): 5 mils (125 microns) min., 7 mils (180 microns) max.
 - Epoxy Intermediate Coat: 3 mils (75 microns) min., 6 mils (150 microns) max.
 - Aliphatic Urethane Top Coat: 2.5 mils (65 microns) min., 4 mils (100 microns) max.

- (b) The total dry film thickness, excluding the spot areas touched up with epoxy mastic, shall be between 8.5 and 15 mils (215 and 375 microns).

- (c) All faying surfaces of field connections shall be masked off after priming and shall not receive the intermediate or top coats in the shop. The intermediate and top coats for field connections shall be applied, in the field, after erection of the structural steel is completed.

Special Instructions.

Painting Date/System Code. At the completion of the work, the Contractor shall stencil in contrasting color paint the date of painting the bridge, the painting Contractors name, and the paint type code from the Structure Information and Procedure Manual for the system used. The letters shall be capitals, not less than 2 in. (50 mm) and not more than 3 in. (75 mm) in height. When all coats are applied in the shop the shop Contractor shall do the stenciling. When 1 or more coats are applied in the field, the field contractor shall do the stenciling.

The stencil shall contain the following wording "PAINTED BY (insert the name of the painting Contractor)" and shall show the month and year in which the painting was completed, followed by "CODE S" for the Inorganic Zinc/ Acrylic System, "CODE X" for the Organic Zinc/ Epoxy/ Urethane System (field applied finish coats), "CODE AB" for the Organic Zinc/ Epoxy/ Urethane System (shop applied), all stenciled on successive lines. This information shall be stenciled on the cover plate of a truss end post near the top of the railing, or on the outside face of an

outside stringer near both ends of the bridge facing traffic, or at some equally visible surface designated by the Engineer.

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

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

SURFACE PREPARATION AND PAINTING REQUIREMENTS FOR WEATHERING STEEL

Effective: November 21, 1997

Revised: May 11, 2009

Description. This work consists of surface preparation of structural steel on bridges built with AASHTO Grade 50W (AASHTO M270M Grade 345W) weathering steel. Also included is the protection and cleaning of the substructure.

Paint systems. When painting of the structural steel, bearings, or portions thereof is specified on the plans, unless noted otherwise the Contractor shall have the option of using a shop and field applied paint system or a full shop applied system. When fabrication and erection of structural steel are accomplished under separate contracts, the entire paint system shall be shop applied as part of the fabrication contract. Cleaning and painting shall be according to the Special Provision for "Cleaning and Painting New Metal Structures" except as modified herein.

a) Shop and Field Applied Paint System. When the primer is to be shop applied and the intermediate and top coats field applied the Inorganic Zinc Rich/ Acrylic/ Acrylic Paint System shall be used.

b) Shop Applied Paint System. When the primer, intermediate and top coats are all to be shop applied the Organic Zinc Rich/ Epoxy/ Urethane Paint System shall be used.

c) The galvanizing requirement of Article 506.04(j) of the Standard Specifications shall not apply to AASHTO M164 (M164M) Type 3 bolts.

d) All materials for the paint system used shall be supplied by the same paint manufacturer. The color of the finish coat supplied shall match the Federal Color Standard 595a 20045.

Construction Requirements

Surface Preparation. All steel shall be cleaned of any surface contamination according to SSPC-SP1 (Solvent Cleaning) and then given a blast cleaning according to SSPC-SP6 (Commercial Blast Cleaning) except areas to be painted shall be given a blast cleaning according to SSPC-SP10 (Near-White Blast Cleaning).

Water Washing. After blasting and painting in the shop, all areas of the steel to remain unpainted shall be sprayed with a stream of potable water to ensure uniform weathering.

Protection and Cleaning of Substructure. The piers and abutments shall be protected during construction to prevent rust staining of the concrete. This can be accomplished by temporarily wrapping the piers and abutments with polyethylene covering. Any rust staining of the piers or abutments shall be cleaned to satisfaction of the Engineer after the bridge deck is complete.

Basis of Payment. Surface preparation of structural steel, protection and cleaning of the substructure and painting of structural steel when specified will be considered as included in the

cost for fabrication, or fabrication and erection, of structural steel and will not be paid for separately.

UNDERWATER STRUCTURE EXCAVATION PROTECTION

Effective: April 1, 1995

Revised: March 6, 2009

Description. This work shall include all labor, materials, and equipment necessary for the isolation and protection of any excavations, from flowing water, which may be needed for construction at the locations shown on the plans and as required by the Specifications. Other than to install and remove the excavation protection no work shall be performed in flowing water. The protection may consist of diverting the water for the excavation by the uses of timbers, sheet piling, non erodible barrier material or other structural elements adequate to protect and support the excavation. The protection need not be watertight. All concrete placement below the waterline shall be tremied underwater into forms according to Article 503.08 of the Standard Specifications. Tremied concrete shall be placed to an elevation 1 ft. (300 mm) above the water level at the time of construction.

The Contractor's plan for the subject protection shall address the proposed construction sequence, including water diversion and/or dewatering methods, erosion and sediment control measures, sediment traps, disposal of excavated material, effluent water, along with best management practices to prevent reintroduction of excavated material into flowing water, etc. The plan shall be approved by the Engineer before excavation protection and construction may begin. Any system selected by the Contractor in which safe design and construction requires that loads and stresses be computed and the size and strength of parts determined by mathematical calculations based upon scientific principles and engineering data shall be prepared and sealed by an Illinois Licensed Structural Engineer. When the excavation protection is no longer required, it shall be removed according to the Contractor's plan unless otherwise specified by the Engineer. All materials removed will become the property of the Contractor.

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

| **POROUS GRANULAR EMBANKMENT, SPECIAL**

Effective: September 28, 2005

| Revised: November 14, 2008

Description. This work shall consist of furnishing and placing porous granular embankment special material as detailed on the plans, according to Section 207 except as modified herein.

Materials. The gradation of the porous granular material may be any of the following CA 8 thru CA 18, FA 1 thru FA 4, FA 7 thru FA 9, and FA 20 according to Articles 1003 and 1004.

| Construction. The porous granular embankment special shall be installed according to Section 207, except that it shall be uncompacted.

Basis of Payment. This work will be paid for at the contract unit price per Cubic Yard (Cubic Meter) for POROUS GRANULAR EMBANKMENT, SPECIAL.

DEMOLITION PLANS FOR REMOVAL OF EXISTING STRUCTURES

Effective: September 5, 2007

Add to the beginning of Article 501.02 of the Standard Specifications.

“The Contractor shall submit a demolition plan to the Engineer for approval, detailing the proposed methods of demolition and the amount, location(s) and type(s) of equipment to be used. With the exception of removal of single box culverts, for work adjacent to or over an active roadway, railroad or navigable waterway, the demolition plan shall include an assessment of the structure’s condition and an evaluation of the structure’s strength and stability during demolition and shall be sealed by an Illinois Licensed Structural Engineer.”

POROUS GRANULAR EMBANKMENT, SUBGRADE

Effective: September 30, 1985

Revised: August 1, 2008

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

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

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

2. Gravel** and Crushed Gravel

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

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

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

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

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

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

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

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

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

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

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

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ATTACHMENTS

**A. Employment Preference for Appalachian Contracts
(included in Appalachian contracts only)**

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4 and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. Selection of Labor: During the performance of this contract, the contractor shall not:

- a. Discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

- b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60 (and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

- a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
- b. The contractor will accept as his operating policy the following statement: "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job-training."

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

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

- a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
- b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
- c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
- d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees,

applicants for employment and potential employees.

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

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

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

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

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

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

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

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

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

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be

in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

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

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

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

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

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

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

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees.

Contractors shall obtain lists of DBE construction firms from SHA

personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

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

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

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

(3) The progress and efforts being made in locating, hiring, training,

qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of

DBE subcontractors or subcontractors with meaningful minority and

female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located

on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the

contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

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

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

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

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

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

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any

employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid

the full amount of fringe benefits listed on the wage determination

for the applicable classification. If the Administrator for the Wage

and Hour Division determines that a different practice prevails for

the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

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

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which cases such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration

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

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV. 2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

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

6. Withholding:

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

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or

permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall; upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely

all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for submitting payroll copies of all subcontractors.

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

- (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
- (2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
- (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S. C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all federal-aid contracts on the national highway system, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

- a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
- b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
- c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data

required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractors' own organization (23 CFR 635).

- a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.
- b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in

surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

“Whoever, being an officer, agent or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.”

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more).

By submission of this bid or the execution of this contract, or

subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 *et seq.*, as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et seq.*, as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal

is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification in all lower tier covered transactions

and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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.