

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

### **PREQUALIFICATION**

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

### **REQUESTS FOR AUTHORIZATION TO BID**

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

### **WHO CAN BID ?**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**ADDENDUMS AND REVISIONS TO THE PROPOSAL FORMS**

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

RETURN WITH BID

1X

Proposal Submitted By
Name
Address
City

Letting March 11, 2011

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

**NOTICE TO PROSPECTIVE BIDDERS**

This proposal can be used for bidding purposes by only those companies that request and receive written AUTHORIZATION TO BID from IDOT's Central Bureau of Construction. This does not apply to Small Business Set-Asides or to the Target Market Program projects. (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. 63556  
COOK County  
Section 06-00050-00-GS (Bridgeview)  
Route FAU 1537 (71st Street)  
Project CRE-9003(709)  
District 1 Construction Funds

PLEASE MARK THE APPROPRIATE BOX BELOW:

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

Prepared by	
Checked by	F

(Printed by authority of the State of Illinois)

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## INSTRUCTIONS

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

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

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

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

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

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.

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### 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

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. 63556  
COOK County  
Section 06-00050-00-GS (Bridgeview)  
Project CRE-9003(709)  
Route FAU 1537 (71st Street)  
District 1 Construction Funds**

**Project consists of the construction of a grade separation underpass at the existing CSX Railroad tracks, construction of retaining walls, 71st Street will be reconstructed and depressed under the new bridge with a portion of Ferdinand Avenue requiring reconstruction, utility relocation, storm sewers, detention pond expansion, curb and gutter, sidewalks, lighting and landscaping, from east of 78th Avenue to Beloit Avenue, in the village of Bridgeview. (Please contact Timothy Whalen of AECOM at 312-938-0300 regarding questions).**

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



**RETURN WITH BID**

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

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

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

**Schedule of Combination Bids**

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

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

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

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

Check box Yes   
 Check box No

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

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

STATE JOB # - C-91-458-10  
 PPS NBR - 1-20927-0000

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT NUMBER - 63556

ECMS002 DTGECM03 ECMR003 PAGE 1  
 RUN DATE - 02/16/11  
 RUN TIME - 183112

COUNTY NAME	CODE	DIST	SECTION NUMBER	PROJECT NUMBER	ROUTE		
COOK	031	01	06-00050-00-GS (BRIDGEVIEW)	CRE-9003/709/000	FAU 1537		
ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	CENTS	TOTAL PRICE DOLLARS	CTS
B2005138	T-MALLUS SS 3	EACH	13.000	X	=		
C2001636	S-CORNUS SERICEA 3'	EACH	50.000	X	=		
K1005481	SHRED BARK MULCH 3	SQ YD	80.000	X	=		
XX000679	CUT & CAP EX WATER M	EACH	2.000	X	=		
XX002185	REL EX LIGHT POLE	EACH	12.000	X	=		
XX003037	D I FITTINGS & ACCESS	POUND	9,930.000	X	=		
XX006779	WATER SERV LINE 6	FOOT	152.000	X	=		
XX007089	VV 4 DIA 8 VALVE	EACH	1.000	X	=		
XX008155	WATER METER VAULT	EACH	1.000	X	=		
XX008406	8X8 TS VV TA 4D T1FCL	EACH	3.000	X	=		
XX008407	16X16 TSVV TA6D T1FCL	EACH	1.000	X	=		
XX008408	16X16 TSVV TA6D SFTS	EACH	1.000	X	=		
XX008409	D I WM CL52 POLY E 16	FOOT	1,102.000	X	=		
XX008410	D I WM CL52 PE NG 8	FOOT	950.000	X	=		
XX008411	D I WM CL52 PE NG 16	FOOT	247.000	X	=		

FAU 1537  
 06-00050-00-GS (BRIDGEVIEW)  
 C00K

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		
XX008412	30DIA S SLVE 0.469 OC	FOOT	65.000	=			
XX008413	30DIA S SLVE 0.469 AG	FOOT	155.000	=			
XX008414	VV 5 DIA 16 VALVE	EACH	2.000	=			
XX008438	TR CONT-PROT TEMP DET	EACH	3.000	=			
XX008495	STORM SEW JKD 84 SPL	FOOT	128.000	=			
XX008496	LIFT STATION	L SUM	1.000	=			
XX008497	CHECK VALVE 12	EACH	3.000	=			
XX008498	CARB ST FORCE MAIN 12	FOOT	60.000	=			
XX008499	8 V IN 48 VV, T1F, CL	EACH	3.000	=			
XX008500	8 VALVE IN VALVE BOX	EACH	1.000	=			
XX008501	16 VALVE IN VALVE BOX	EACH	1.000	=			
XX008502	16X8RTS 8GV IN 6VV T1	EACH	1.000	=			
XX008503	CONSTR OF JUMP SPANS	L SUM	1.000	=			
XX008504	PR T MH 78D SS T1F CL	EACH	1.000	=			
XX008505	PR T MH 84D SS T1F CL	EACH	3.000	=			

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 06-00050-00-GS (BRIDGEVIEW)  
 COOK

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		
X0324455	DRILL/SET SOLD P SOIL	CU FT	4,614.000	=			
X0324546	MAN SPL FRAME & LID	EACH	1.000	=			
X0324634	RM-STK-RPL SN P/SPA S	EACH	1.000	=			
X0325003	REM EX VALVE & VAULT	EACH	1.000	=			
X0326033	GUARD HSE REM & REPL	L SUM	1.000	=			
X0326657	RELOCATE SIGN SPL	EACH	1.000	=			
X0329858	REM REIN LUMINAIRE	EACH	12.000	=			
X0350810	BOLLARD REMOVAL	EACH	10.000	=			
X0811100	RAILROAD CROSSING	L SUM	1.000	=			
X2070304	POROUS GRAN EMB SPEC	CU YD	490.000	=			
X2130010	EXPLOR TRENCH SPL	FOOT	150.000	=			
X4021000	TEMP ACCESS- PRIV ENT	EACH	4.000	=			
X4022000	TEMP ACCESS- COM ENT	EACH	3.000	=			
X4400220	CURB REM & REPLACEMT	FOOT	251.000	=			
X4400500	COMB C&G REMOV SPL	FOOT	3,750.000	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
X5080600	MECHANICAL SPLICERS	EACH	400.000	=			
X5090810	PEDESTRIAN RAIL SPL	FOOT	150.000	=			
X5500320	PREC TRAN P 36-84D	EACH	1.000	=			
X5500330	PREC TRAN P 78-84D	EACH	1.000	=			
X5610708	WATER MAIN REMOV 8	FOOT	10.000	=			
X5610710	WATER MAIN REMOV 10	FOOT	40.000	=			
X5610716	WATER MAIN REMOV 16	FOOT	905.000	=			
X5630008	CUT & CAP EX 8 WM	EACH	5.000	=			
X6030310	FR & LIDS ADJUST SPL	EACH	2.000	=			
X6640200	TEMP CH LK FENCE	FOOT	410.000	=			
X7010216	TRAF CONT & PROT SPL	L SUM	1.000	=			
X8360215	LIGHT POLE FDN 24D OS	FOOT	16.000	=			
X8440116	RELOC EX LT UNIT SPL	EACH	1.000	=			
Z0001050	AGG SUBGRADE 12	SQ YD	10,593.000	=			
Z0002500	BALLAST DRAINS	FOOT	375.000	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
Z0004002	BOLLARDS	EACH	6.000				
Z0007118	UNTREATED TIMBER LAG	SQ FT	24,189.000				
Z0018911	DRILL-GROUT #6 T-BAR	EACH	52.000				
Z0022800	FENCE REMOVAL	FOOT	1,569.000				
Z0026404	FUR SOLDIER PILES WS	FOOT	7,361.000				
Z0030275	IMP ATTN TEMP SUN TL2	EACH	2.000				
Z0030850	TEMP INFO SIGNING	SQ FT	379.000				
Z0033028	MAINTAIN LIGHTING SYS	CAL MO	18.000				
Z0042002	POROUS GRAN EMB SUBGR	CU YD	100.000				
Z0046304	P UNDR FOR STRUCT 4	FOOT	1,879.000				
Z0048665	RR PROT LIABILITY INS	L SUM	1.000				
Z0048900	RR TRACK REMOV	FOOT	28.000				
Z0056608	STORM SEW WM REQ	FOOT	231.000				
Z0056610	STORM SEW WM REQ	FOOT	76.000				
Z0062456	TEMP PAVEMENT	SQ YD	800.000				

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
Z0073002	TEMP SOIL RETEN SYSTEM	SQ FT	800.000				
Z0076600	TRAINEES	HOUR	2,000.000	0.80		1,600.00	
20100110	TREE REMOV 6-15	UNIT	143.000				
20100210	TREE REMOV OVER 15	UNIT	18.000				
20101000	TEMPORARY FENCE	FOOT	1,500.000				
20101100	TREE TRUNK PROTECTION	EACH	30.000				
20101700	SUPPLE WATERING	UNIT	110.000				
20200100	EARTH EXCAVATION	CU YD	41,981.000				
20800150	TRENCH BACKFILL	CU YD	9,698.000				
21101615	TOPSOIL F & P 4	SQ YD	14,134.000				
21101685	TOPSOIL F & P 24	SQ YD	80.000				
21301072	EXPLOR TRENCH 72	FOOT	80.000				
25000200	SEEDING CL 2	ACRE	0.700				
25100630	EROSION CONTR BLANKET	SQ YD	10,892.000				
25200110	SODDING SALT TOLERANT	SQ YD	10,892.000				

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
28000250	TEMP EROS CONTR SEED	POUND	750.000		=		
28000400	PERIMETER EROS BAR	FOOT	6,050.000		=		
28000510	INLET FILTERS	EACH	80.000		=		
31101200	SUB GRAN MAT B 4	SQ YD	9,604.000		=		
31200502	STAB SUBBASE HMA 4.5	SQ YD	9,768.000		=		
35501308	HMA BASE CSE 6	SQ YD	240.000		=		
40600100	BIT MATLS PR CT	GALLON	2,077.000		=		
40600300	AGG PR CT	TON	31.000		=		
40603080	HMA BC IL-19.0 N50	TON	48.000		=		
40603310	HMA SC "C" N50	TON	49.000		=		
40603335	HMA SC "D" N50	TON	457.000		=		
40701921	HMA PAVT FD 12	SQ YD	2,738.000		=		
42000501	PCC PVT 10 JOINTED	SQ YD	9,149.000		=		
42001300	PROTECTIVE COAT	SQ YD	49,447.000		=		
42300400	PCC DRIVEWAY PAVT 8	SQ YD	5,446.000		=		

FAU 1537  
 06-00050-00-GS (BRIDGEVIEW)  
 COOK

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		
42400200	PC CONC SIDEWALK 5	SQ FT	14,914.000	=			
42400800	DETECTABLE WARNINGS	SQ FT	116.000	=			
44000100	PAVEMENT REM	SQ YD	13,341.000	=			
44000157	HMA SURF REM 2	SQ YD	4,080.000	=			
44000200	DRIVE PAVEMENT REM	SQ YD	3,509.000	=			
44000300	CURB REM	FOOT	20.000	=			
44000600	SIDEWALK REM	SQ FT	11,918.000	=			
44003100	MEDIAN REMOVAL	SQ FT	194.000	=			
44200120	PAVT PATCH T2 10	SQ YD	86.000	=			
44200124	PAVT PATCH T3 10	SQ YD	50.000	=			
44200126	PAVT PATCH T4 10	SQ YD	665.000	=			
44201359	CL C PATCH T4 10	SQ YD	171.000	=			
50105220	PIPE CULVERT REMOV	FOOT	38.000	=			
50200100	STRUCTURE EXCAVATION	CU YD	2,398.000	=			
50300225	CONC STRUCT	CU YD	2,405.000	=			

FAU 1537  
 06-00050-00-GS (BRIDGEVIEW)  
 C00K

ILLINOIS DEPARTMENT OF TRANSPORTATION  
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
50300285	FORM LINER TEX SURF	SQ FT	26,300.000	=			
50300300	PROTECTIVE COAT	SQ YD	1,974.000	=			
50500405	F & E STRUCT STEEL	POUND	941,936.000	=			
50500505	STUD SHEAR CONNECTORS	EACH	3,650.000	=			
50800205	REINF BARS, EPOXY CID	POUND	481,200.000	=			
50900105	ALUM RAILING TY L	FOOT	1,550.000	=			
52100400	STEEL BEARING ASSEMBLY	EACH	38.000	=			
52100530	ANCHOR BOLTS 1 1/4	EACH	76.000	=			
52100540	ANCHOR BOLTS 1 1/2	EACH	38.000	=			
542A1069	P CUL CL A 2 24	FOOT	5.000	=			
54210562	PIPE ELBOW 78	EACH	2.000	=			
54210568	PIPE ELBOW 84	EACH	6.000	=			
54213669	PRC FLAR END SEC 24	EACH	1.000	=			
54213687	PRC FLAR END SEC 42	EACH	1.000	=			
550A0050	STORM SEW CL A 1 12	FOOT	173.000	=			

FAU 1537  
 06-00050-00-GS (BRIDGEVIEW)  
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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		
550A0340	STORM SEW CL A 2 12	FOOT	1,824.000	=			
550A0360	STORM SEW CL A 2 15	FOOT	815.000	=			
550A0380	STORM SEW CL A 2 18	FOOT	83.000	=			
550A0430	STORM SEW CL A 2 30	FOOT	244.000	=			
550A0450	STORM SEW CL A 2 36	FOOT	111.000	=			
550A0470	STORM SEW CL A 2 42	FOOT	279.000	=			
550A0530	STORM SEW CL A 2 78	FOOT	84.000	=			
550A0540	STORM SEW CL A 2 84	FOOT	886.000	=			
550A0730	STORM SEW CL A 3 30	FOOT	261.000	=			
550A0770	STORM SEW CL A 3 42	FOOT	74.000	=			
550A1620	STORM SEW CL A 6 36	FOOT	259.000	=			
55100500	STORM SEWER REM 12	FOOT	1,108.000	=			
55100700	STORM SEWER REM 15	FOOT	262.000	=			
55101200	STORM SEWER REM 24	FOOT	510.000	=			
55102400	STORM SEWER REM 78	FOOT	168.000	=			

FAU 1537  
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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		
55102500	STORM SEWER REM 84	FOOT	1,073.000	=			
56100700	WATER MAIN 8	FOOT	50.000	=			
56200300	WATER SERV LINE 1	FOOT	96.000	=			
56200700	WATER SERV LINE 2	FOOT	32.000	=			
56300300	ADJ WATER SERV LINES	FOOT	60.000	=			
56400500	FIRE HYDNITS TO BE REM	EACH	4.000	=			
56400820	FIRE HYD W/AUX V & VB	EACH	7.000	=			
58000100	MEMBRANE WATERPROOF	SQ FT	4,602.000	=			
59100100	GEOCOMPOSITE WALL DR	SQ YD	3,055.000	=			
60107600	PIPE UNDERDRAINS 4	FOOT	440.000	=			
60108100	PIPE UNDERDRAIN 4 SP	FOOT	48.000	=			
60200205	CB TA 4 DIA T1F CL	EACH	1.000	=			
60200805	CB TA 4 DIA T8G	EACH	3.000	=			
60201205	CB TA 4 DIA T12F&G	EACH	30.000	=			
60201340	CB TA 4 DIA T24F&G	EACH	3.000	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE
				DOLLARS	CENTS	
60218400	MAN TA 4 DIA T1F CL	EACH	17.000	=		
60221100	MAN TA 5 DIA T1F CL	EACH	12.000	=		
60223800	MAN TA 6 DIA T1F CL	EACH	1.000	=		
60236200	INLETS TA 18G	EACH	2.000	=		
60236900	INLETS TA T12F&G	EACH	20.000	=		
60240315	INLETS TB T12F&G	EACH	2.000	=		
60250500	CB ADJ NEW T1F CL	EACH	2.000	=		
60500040	REMOV MANHOLES	EACH	17.000	=		
60500050	REMOV CATCH BAS	EACH	22.000	=		
60500060	REMOV INLETS	EACH	2.000	=		
60600605	CONC CURB TB	FOOT	620.000	=		
60603800	COMB CC&G TB6.12	FOOT	5,300.000	=		
60619200	CONC MED TSB6.06	SQ FT	182.000	=		
66400305	CH LK FENCE	FOOT	914.000	=		
66400505	CH LK FENCE	FOOT	281.000	=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
66407600	CH LK GATES 6X12 DBL	EACH	1.000	=			
66407900	CH LK GATES 6X18 DBL	EACH	1.000	=			
66900205	SPL WASTE DISPOSAL	CU YD	98.000	=			
67000400	ENGR FIELD OFFICE A	CAL MO	18.000	=			
67100100	MOBILIZATION	L SUM	1.000	=			
70106800	CHANGEABLE MESSAGE SN	CAL MO	24.000	=			
70300220	TEMP PVT MK LINE 4	FOOT	6,400.000	=			
70300280	TEMP PVT MK LINE 24	FOOT	90.000	=			
70400100	TEMP CONC BARRIER	FOOT	1,600.000	=			
70400200	REL TEMP CONC BARRIER	FOOT	3,200.000	=			
72000100	SIGN PANEL T1	SQ FT	103.000	=			
72000200	SIGN PANEL T2	SQ FT	26.000	=			
72400310	REMOV SIGN PANEL T1	SQ FT	49.000	=			
72400320	REMOV SIGN PANEL T2	SQ FT	16.000	=			
72400710	RELOC SIGN PANEL T1	SQ FT	30.000	=			

FAU 1537  
 06-00050-00-GS (BRIDGEVIEW)  
 COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT NUMBER - 63556

ECMS002 DTGECM03 ECMR003 PAGE 14  
 RUN DATE - 02/16/11  
 RUN TIME - 183112

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
72400720	RELOC SIGN PANEL T2	SQ FT	14.000	=			
73400100	CONC FOUNDATION	CU YD	10.200	=			
78003110	PREF PL PM TB LINE 4	FOOT	5,839.000	=			
78003130	PREF PL PM TB LINE 6	FOOT	1,562.000	=			
78003180	PREF PL PM TB LINE 24	FOOT	107.000	=			
81000700	CON T 2 1/2 GALVS	FOOT	445.000	=			
81100600	CON AT ST 2 GALVS	FOOT	360.000	=			
81101000	CON AT ST 4 GALVS	FOOT	240.000	=			
81300530	JUN BX SS AS 12X10X6	EACH	6.000	=			
81300730	JUN BX SS AS 16X14X6	EACH	4.000	=			
81603050	UD 3#6 #8G XLP USE 1	FOOT	1,625.000	=			
81603598	UD 6#6 #8G XLP USE 1.5	FOOT	1,525.000	=			
81702415	EC C XLP USE 3-1C 6	FOOT	415.000	=			
81800330	A CBL 3-1C6 MESS WIRE	FOOT	3,025.000	=			
81900200	TR & BKFIL F ELECT WK	FOOT	3,005.000	=			

FAU 1537  
06-00050-00-GS (BRIDGEVIEW)  
COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SCHEDULE OF PRICES  
CONTRACT NUMBER - 63556

ECMS002 DTGECM03 ECMR003 PAGE 15  
RUN DATE - 02/16/11  
RUN TIME - 183112

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
82102250	LUM SV HOR MT 250W	EACH	12.000	X	=		
82107200	UNDERPAS LUM 100W HPS	EACH	6.000	X	=		
83057285	LT P WD 50 CL3 15MA	EACH	12.000	X	=		
83600200	LIGHT POLE FDN 24D	FOOT	80.000	X	=		
84100110	REM TEMP LIGHT UNIT	EACH	12.000	X	=		
84200500	REM LT UNIT SALV	EACH	12.000	X	=		
84200804	REM POLE FDN	EACH	12.000	X	=		
TOTAL \$							

NOTE:

1. EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.
2. THE UNIT PRICE SHALL GOVERN IF NO TOTAL PRICE IS SHOWN OR IF THERE IS A DISCREPANCY BETWEEN THE PRODUCT OF THE UNIT PRICE MULTIPLIED BY THE QUANTITY.
3. IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.
4. A BID MAY BE DECLARED UNACCEPTABLE IF NEITHER A UNIT PRICE NOR A TOTAL PRICE IS SHOWN.

## RETURN WITH BID

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

#### **I. GENERAL**

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

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

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

#### **II. ASSURANCES**

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

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

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

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

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

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

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

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

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

## RETURN WITH BID

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

### **B. Negotiations**

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

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

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

### **C. Inducements**

1. The Illinois Procurement Code provides:

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

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

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

1. The Illinois Procurement Code provides:

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

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

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

1. The Illinois Procurement Code provides:

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

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

### **F. Confidentiality**

1. The Illinois Procurement Code provides:

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

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

## RETURN WITH BID

### **G. Insider Information**

1. The Illinois Procurement Act provides:

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

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

### **III. CERTIFICATIONS**

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

#### **A. Bribery**

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

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

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

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

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

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

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

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

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

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

#### **B. Felons**

1. The Illinois Procurement Code provides:

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

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

## RETURN WITH BID

### **C. Debt Delinquency**

1. The Illinois Procurement Code provides:

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

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

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

1. The Illinois Procurement Code provides:

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

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

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

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

### **F. Educational Loan**

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

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

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

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

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

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

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

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

## RETURN WITH BID

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

RETURN WITH BID

J. Disclosure of Business Operations in Iran

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

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

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

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

Check the appropriate statement:

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

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

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

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

NA-FEDERAL

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

**RETURN WITH BID**

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

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

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

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

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

**M. Lobbyist Disclosure**

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

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

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

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

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

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

Or

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

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

## RETURN WITH BID

### IV. DISCLOSURES

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

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

### B. Financial Interests and Conflicts of Interest

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

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

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

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

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

### C. Disclosure Form Instructions

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

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

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

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

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

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

## RETURN WITH BID

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

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

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

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

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A Financial Information & Potential Conflicts of Interest Disclosure

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

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

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

DISCLOSURE OF FINANCIAL INFORMATION

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

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

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

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

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

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

**RETURN WITH BID**

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

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

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

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

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

---

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

---

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

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

---

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

---

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

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**RETURN WITH BID**

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

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

---

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

---

**3. Communication Disclosure.**

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

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

**RETURN WITH BID**

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

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

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

**APPLICABLE STATEMENT**

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

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

**NOT APPLICABLE STATEMENT**

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

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

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

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

RETURN WITH BID

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**Form B  
Other Contracts &  
Procurement Related Information  
Disclosure**

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

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

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

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

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

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

**THE FOLLOWING STATEMENT MUST BE CHECKED**

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

## **RETURN WITH BID**

### **SPECIAL NOTICE TO CONTRACTORS**

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

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

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



**RETURN WITH BID**

**Contract No. 63556  
COOK County  
Section 06-00050-00-GS (Bridgeview)  
Project CRE-9003(709)  
Route FAU 1537 (71st Street)  
District 1 Construction Funds**

**PART II. WORKFORCE PROJECTION - continued**

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

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

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

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

**PART III. AFFIRMATIVE ACTION PLAN**

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

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

Address \_\_\_\_\_

**NOTICE REGARDING SIGNATURE**

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

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

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

**RETURN WITH BID**

**ADDITIONAL FEDERAL REQUIREMENTS**

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

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

**RETURN WITH BID**

**Contract No. 63556  
COOK County  
Section 06-0050-00-GS (Bridgeview)  
Project CRE-9003(709)  
Route FAU 1537 (71st Street)  
District 1 Construction Funds**

PROPOSAL SIGNATURE SHEET

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

(IF AN INDIVIDUAL)

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

(IF A CO-PARTNERSHIP)

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

(IF A CORPORATION)

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

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

Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
Business Address \_\_\_\_\_

(IF A JOINT VENTURE)

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

Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
Business Address \_\_\_\_\_

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



Return with Bid

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

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

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

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

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

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

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

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

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

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

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

**PRINCIPAL**

**SURETY**

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Company Name)

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

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

**Notary Certification for Principal and Surety**

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

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

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

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

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

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

\_\_\_\_\_  
Notary Public

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

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

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



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

**(1) Policy**

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

**(2) Obligation**

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

**(3) Project and Bid Identification**

Complete the following information concerning the project and bid:

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

**(4) Assurance**

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

Meets or exceeds contract award goals and has provided documented participation as follows:  
Disadvantaged Business Participation \_\_\_\_\_ percent

Attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.

Failed to meet contract award goals and has included good faith effort documentation to meet the goals and that my company has provided participation as follows:  
Disadvantaged Business Participation \_\_\_\_\_ percent

The contract goals should be accordingly modified or waived. Attached is all information required by the Special Provision in support of this request including good faith effort. Also attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.

\_\_\_\_\_  
Company

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

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

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

Bureau of Small Business Enterprises                      **Local Let Projects**  
2300 South Dirksen Parkway                                      Submit forms to the  
Springfield, Illinois 62764    Local Agency



# 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. 63556  
COOK County  
Section 06-00050-00-GS (Bridgeview)  
Project CRE-9003(709)  
Route FAU 1537 (71st Street)  
District 1 Construction Funds**



**Illinois Department of Transportation**

## **SUBCONTRACTOR DOCUMENTATION**

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

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

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

## RETURN WITH SUBCONTRACT

### STATE ETHICAL STANDARDS GOVERNING SUBCONTRACTORS

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

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

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

#### **A. Bribery**

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

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

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

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

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

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

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

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

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

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

#### **B. Felons**

1. The Illinois Procurement Code provides:

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

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

## RETURN WITH SUBCONTRACT

### **C. Debt Delinquency**

1. The Illinois Procurement Code provides:

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

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

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

1. The Illinois Procurement Code provides:

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

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

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

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

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

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

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

\_\_\_\_\_  
Date

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

**I. DISCLOSURES**

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

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

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

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

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

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

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

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

**C. Disclosure Form Instructions**

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

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

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

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

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

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

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

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

## RETURN WITH SUBCONTRACT

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

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

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

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

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

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

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

DISCLOSURE OF FINANCIAL INFORMATION

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

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

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

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

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

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

**RETURN WITH SUBCONTRACT**

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

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

---

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

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

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

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

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

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

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

---

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

---

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

---

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

---

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

---

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

**RETURN WITH SUBCONTRACT**

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

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

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

**3. Communication Disclosure.**

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

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

**RETURN WITH SUBCONTRACT**

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

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

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

**APPLICABLE STATEMENT**

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

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

**NOT APPLICABLE STATEMENT**

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

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

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

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT  
OF TRANSPORTATION

Form B  
Subcontractor: Other Contracts &  
Procurement Related Information  
Disclosure

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

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

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

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

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

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

**THE FOLLOWING STATEMENT MUST BE CHECKED**

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



## 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., March 11, 2011. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 63556  
COOK County  
Section 06-00050-00-GS (Bridgeview)  
Project CRE-9003(709)  
Route FAU 1537 (71st Street)  
District 1 Construction Funds**

**Project consists of the construction of a grade separation underpass at the existing CSX Railroad tracks, construction of retaining walls, 71st Street will be reconstructed and depressed under the new bridge with a portion of Ferdinand Avenue requiring reconstruction, utility relocation, storm sewers, detention pond expansion, curb and gutter, sidewalks, lighting and landscaping, from east of 78th Avenue to Beloit Avenue, in the village of Bridgeview. (Please contact Timothy Whalen of AECOM at 312-938-0300 regarding questions).**

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.  
  
(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to readvertise the proposed improvement, and to waive technicalities.

By Order of the  
Illinois Department of Transportation

Gary Hannig,  
Secretary

INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2011

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

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

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CSXT Permit – Facility Encroachment Agreement

CSXT Light Duty Road Crossing Asphalt and Rubber Interface on Wood Ties Standard Drawing

CCHD Permit Application

ITW Accident Form (Signode Property)

PepsiCo Plant Outage Schedule

Supp

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Effective as of the: March 11, 2011 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	Oct 4, 2010
		GBSP14	Jack and Remove Existing Bearings	April 20, 1994	Jan 1, 2007
		GBSP15	Three Sided Precast Concrete Structure	July 12, 1994	Jan 18, 2011
		GBSP16	Jacking Existing Superstructure	Jan 11, 1993	Jan 1, 2007
		GBSP17	Bonded Preformed Joint Seal	July 12, 1994	Jan 1, 2007
		GBSP18	Modular Expansion Joint	May 19, 1994	Jan 1, 2007
		GBSP21	Cleaning and Painting Contact Surface Areas of Existing Steel Structures	June 30, 2003	Jan 1, 2007
		GBSP22	Cleaning and Painting New Metal Structures	Sept 13, 1994	Oct 4, 2010
		GBSP25	Cleaning and Painting Existing Steel Structures	Oct 2, 2001	April 30, 2010
		GBSP26	Containment and Disposal of Lead Paint Cleaning Residues	Oct 2, 2001	April 30, 2010
		GBSP28	Deck Slab Repair	May 15, 1995	Jan 18, 2011
		GBSP29	Bridge Deck Microsilica Concrete Overlay	May 15, 1995	Jan 18, 2011
		GBSP30	Bridge Deck Latex Concrete Overlay	May 15, 1995	Jan 18, 2011
		GBSP31	Bridge Deck High-Reactivity Metakaolin (HRM) Conc Overlay	Jan 21, 2000	Jan 18, 2011
244	X	GBSP32	Temporary Sheet Piling	Sept 2, 1994	Jan 1, 2007
		GBSP33	Pedestrian Truss Superstructure	Jan 13, 1998	Oct 4, 2010
		GBSP34	Concrete Wearing Surface	June 23, 1994	Jan 12, 2009
		GBSP35	Silicone Bridge Joint Sealer	Aug 1, 1995	Oct 4, 2010
		GBSP36	Surface Preparation and Painting Req. for Weathering Steel	Nov 21, 1997	May 11, 2009
		GBSP37	Underwater Structure Excavation Protection	April 1, 1995	Mar 6, 2009
		GBSP38	Mechanically Stabilized Earth Retaining Walls	Feb 3, 1999	Jan 18, 2011
246	X	GBSP42	Drilled Soldier Pile Retaining Wall	Sept 20, 2001	Oct 9, 2009
252	X	GBSP43	Driven Soldier Pile Retaining Wall	Nov 13, 2002	Oct 9, 2009
255	X	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	Oct 9, 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
257	X	GBSP51	Pipe Underdrain for Structures	May 17, 2000	Jan 22, 2010
258	X	GBSP52	Porous Granular Embankment (Special)	Sept 28, 2005	Nov 14, 2008
		GBSP53	Structural Repair of Concrete	Mar 15, 2006	Jan 22, 2010
		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	Oct 4, 2010
259	X	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	Oct 9, 2009
		GBSP63	Demolition Plans for Removal of Existing Structures	Sept 5, 2007	
		GBSP64	Segmental Concrete Block Wall	Jan 7, 1999	Oct 4, 2010

		GBSP65	Precast Modular Retaining Walls	Mar 19, 2001	Oct 4, 2010
		GBSP66	Wave Equation Analysis of Piles	Nov 14, 2008	
		GBSP67	Structural Assessment Reports for Contractor's Means and Methods	Mar 6, 2009	
260	X	GBSP68	Piling	May 11, 2009	Jan 22, 2010
		GBSP69	Freeze-Thaw Aggregates for Concrete Superstructures Poured on Grade	April 30, 2010	
263	X	GBSP70	Braced Excavation	Aug 9, 1995	Jan 18, 2011
		GBSP71	Aggregate Column Ground Improvement	Jan 15, 2009	Oct 4, 2010
		GBSP72	Bridge Deck Fly Ash or GGBF Slag Concrete Overlay	Jan 18, 2011	

LIST ANY ADDITIONAL SPECIAL PROVISIONS BELOW


INDEX LOCAL ROADS AND STREETS SPECIAL PROVISIONS

LR #	Pg #	Special Provision Title	Effective	Revised
LR SD 12		<input type="checkbox"/> Slab Movement Detection Device	Nov. 11, 1984	Jan. 1, 2007
LR SD 13		<input type="checkbox"/> Required Cold Milled Surface Texture	Nov. 1, 1987	Jan. 1, 2007
LR 105	264	<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 107-4	267	<input checked="" type="checkbox"/> Insurance	Feb. 1, 2007	Aug. 1, 2007
LR 107-6		<input type="checkbox"/> Selection of Labor	Aug. 1, 2010	
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. 20, 1963	Jan. 1, 2007
LR 400-1		<input type="checkbox"/> Bituminous Treated Earth Surface	Jan. 1, 2007	Jan. 1, 2008
LR 400-2		<input type="checkbox"/> Bituminous Surface Mixture (Class B)	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 1030		<input type="checkbox"/> Growth Curve	Mar. 1, 2008	Jan. 1, 2010
LR 1032-1		<input type="checkbox"/> Emulsified Asphalts	Jan. 1, 2007	Feb. 7, 2008
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 January 21 and March 11, 2011 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
80243	268	X	American Recovery and Reinvestment Act Provisions	April 1, 2009	
80236	269	X	American Recovery and Reinvestment Act Signing	April 1, 2009	April 15, 2009
80186	275	X	Alkali-Silica Reaction for Cast-in-Place Concrete	Aug. 1, 2007	Jan. 1, 2009
80213	278	X	Alkali-Silica Reaction for Precast and Precast Prestressed Concrete	Jan. 1, 2009	
80207	281	X	Approval of Proposed Borrow Areas, Use Areas, and/or Waste Areas (NOTE: This special provision was previously named "Approval of Proposed Borrow Areas, Use Areas, and/or Waste Areas Inside Illinois State Borders".)	Nov. 1, 2008	Nov. 1, 2010
80192			Automated Flagger Assistance Device	Jan. 1, 2008	
80173			Bituminous Materials Cost Adjustments	Nov. 2, 2006	April 1, 2009
80241			Bridge Demolition Debris	July 1, 2009	
50261			Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481			Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491			Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531	282	X	Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80166	284	X	Cement	Jan. 1, 2007	April 1, 2009
80260	287	X	Certification of Metal Fabricator	July 1, 2010	
80198			Completion Date (via calendar days)	April 1, 2008	
80199			Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80094	288	X	Concrete Admixtures	Jan. 1, 2003	April 1, 2009
80215	292	X	Concrete Joint Sealer	Jan. 1, 2009	
80226			Concrete Mix Designs	April 1, 2009	
80261	294	X	Construction Air Quality – Diesel Retrofit	June 1, 2010	
80237	297	X	Construction Air Quality – Diesel Vehicle Emissions Control	April 1, 2009	July 1, 2009
80239	299	X	Construction Air Quality – Idling Restrictions	April 1, 2009	
80227	301	X	Determination of Thickness	April 1, 2009	
80177			Digital Terrain Modeling for Earthwork Calculations	April 1, 2007	
80029	313	X	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Jan. 1, 2010
* 80179	322	X	Engineer's Field Office Type A	April 1, 2007	Jan. 1, 2011
* 80205			Engineer's Field Office Type B	Aug. 1, 2008	Jan. 1, 2011
80189	325	X	Equipment Rental Rates	Aug. 2, 2007	Jan. 2, 2008
80228	327	X	Flagger at Side Roads and Entrances	April 1, 2009	
80249			Frames and Grates	Jan. 1, 2010	
* 80265	328	X	Friction Aggregate	Jan. 1, 2011	
80229	332	X	Fuel Cost Adjustment	April 1, 2009	July 1, 2009
80169			High Tension Cable Median Barrier	Jan. 1, 2007	April 1, 2009
80194	336	X	HMA – Hauling on Partially Completed Full-Depth Pavement	Jan. 1, 2008	
80245	338	X	Hot-Mix Asphalt – Anti-Stripping Additive	Nov. 1, 2009	
80246	339	X	Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	
80250	340	X	Hot-Mix Asphalt – Drop-Offs	Jan. 1, 2010	
80259			Hot-Mix Asphalt – Fine Aggregate	April 1, 2010	
80109			Impact Attenuators	Nov. 1, 2003	Nov. 1, 2008
80110	341	X	Impact Attenuators, Temporary	Nov. 1, 2003	Jan. 1, 2007
80252	343	X	Improved Subgrade	Jan. 1, 2010	
* 80266			Lane Closure, Multilane, Intermittent or Moving Operation, for Speeds ≤ 40 MPH	Jan. 1, 2011	Jan. 2, 2011
80230	346	X	Liquidated Damages	April 1, 2009	
* 80267			Long-Span Guardrail over Culvert	Jan. 1, 2011	
80045			Material Transfer Device	June 15, 1999	Jan. 1, 2009
80203	347	X	Metal Hardware Cast into Concrete	April 1, 2008	April 1, 2009
80165			Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010

<u>File Name</u>	<u>Pg #</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80238	348	X	Monthly Employment Report	April 1, 2009	Jan. 1, 2010
* 80253			Movable Traffic Barrier (NOTE: This Special Provision was previously named "Moveable Traffic Barrier System")	Jan. 1, 2010	Jan. 1, 2011
* 80262	349	X	Mulch	Nov. 1, 2010	Jan. 1, 2011
80180	353	X	National Pollutant Discharge Elimination System / Erosion and Sediment Control Deficiency Deduction	April 1, 2007	Nov. 1, 2009
80208	355	X	Nighttime Work Zone Lighting	Nov. 1, 2008	
80231			Pavement Marking Removal	April 1, 2009	
80254	358	X	Pavement Patching	Jan. 1, 2010	
80022	359	X	Payments to Subcontractors	June 1, 2000	Jan. 1, 2006
80232			Pipe Culverts	April 1, 2009	April 1, 2010
* 80263			Planting Perennial Plants	Jan. 1, 2011	
80210			Portland Cement Concrete Inlay or Overlay	Nov. 1, 2008	
80217			Post Clips for Extruded Aluminum Signs	Jan. 1, 2009	
* 80268	361	X	Post Mounting of Signs	Jan. 1, 2011	
80171	362	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	
80015			Public Convenience and Safety	Jan. 1, 2000	
34261			Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157	364	X	Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80247			Raised Reflective Pavement Markers	Nov. 1, 2009	April 1, 2010
* 80172			Reclaimed Asphalt Pavement (RAP)	Jan. 1, 2007	Jan. 1, 2011
80224			Restoring Bridge Approach Pavements Using High-Density Foam	Jan. 1, 2009	
80131	366	X	Seeding	July 1, 2004	July 1, 2010
80264			Selection of Labor	July 2, 2010	
80152	369	X	Self-Consolidating Concrete for Cast-In-Place Construction	Nov. 1, 2005	July 1, 2010
80132			Self-Consolidating Concrete for Precast Products	July 1, 2004	July 1, 2010
80127	371	X	Steel Cost Adjustment	April 2, 2004	April 1, 2009
80255			Stone Matrix Asphalt	Jan. 1, 2010	
80234			Storm Sewers	April 1, 2009	April 1, 2010
80143	375	X	Subcontractor Mobilization Payments	April 2, 2005	
80075			Surface Testing of Pavements	April 1, 2002	Jan. 1, 2007
* 80087	376	X	Temporary Erosion Control	Nov. 1, 2002	Jan. 1, 2011
80225			Temporary Raised Pavement Marker	Jan. 1, 2009	
* 80256			Temporary Water Filled Barrier (NOTE: This special provision was previously named "Temporary Longitudinal Traffic Barrier System")	Jan. 1, 2010	Jan. 1, 2011
80257			Traffic Barrier Terminal, Type 6	Jan. 1, 2010	
* 80269			Traffic Control Surveillance	Jan. 1, 2011	
20338	380	X	Training Special Provisions	Oct. 15, 1975	
80258			Truck Mounted/Trailer Mounted Attenuators	Jan. 1, 2010	
80071			Working Days	Jan. 1, 2002	

The following special provisions are in the 2011 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>
80214	Concrete Gutter, Type A	Article 606.07	Jan. 1, 2009	
80178	Dowel Bars	Article 1006.11	April 1, 2007	Jan. 1, 2008
80201	Hot-Mix Asphalt – Plant Test Frequency	Article 1030.05	April 1, 2008	Jan. 1, 2010
80251	Hot-Mix Asphalt – QC/QA Acceptance Criteria	Article 1030.05	Jan. 1, 2010	
80202	Hot-Mix Asphalt – Transportation	Article 1030.08	April 1, 2008	
80196	Mast Arm Assembly and Pole	Article 1077.03	Jan. 1, 2008	Jan. 1, 2009
80182	Notification of Reduced Width	Article 701.06	April 1, 2007	
80069	Organic Zinc-Rich Paint System	Article 1008.05	Nov. 1, 2001	Jan. 1, 2010
80216	Partial Exit Ramp Closure for Freeway/Expressway	Section 701	Jan. 1, 2009	
80209	Personal Protective Equipment	Article 701.12	Nov. 1, 2008	
80119	Polyurea Pavement Marking	Sections 780, 1095 and 1105	April 1, 2004	Jan. 1, 2009
80170	Portland Cement Concrete Plants	Article 1020.11	Jan. 1, 2007	
80211	Prismatic Curb Reflectors	Articles 782.03 and 1097.04	Nov. 1, 2008	
80223	Ramp Closure for Freeway/Expressway	Section 701	Jan. 1, 2009	
80183	Reflective Sheeting on Channelizing Devices	Article 1106.02	April 1, 2007	Nov. 1, 2008
80206	Reinforcement Bars – Storage and Protection	Article 508.03	Aug. 1, 2008	April 1, 2009
80176	Thermoplastic Pavement Marking	Article 1095.01	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:

- Bridge Demolition Debris
- 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
- Training Special Provisions
- Working Days

## STATE OF ILLINOIS

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### SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction" adopted January 1, 2007, the latest edition of the "Manual of Uniform Traffic Control Devices for Streets and Highways, 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 Sheets included herein which apply to and govern the construction of Village of Bridgeview 71<sup>st</sup> Street Grade Separation Project, Section No.: 06-00050-00-GS, Job No.: C-91-458-10, Project No.: CRE-9003(709), Contract No.: 63556 in Cook County, and in case of conflict with any part or parts of said specifications, the said special provisions shall take precedence and shall govern.

### LOCATION OF PROJECT

The project is located along FAU 1537 (71st Street) from east of 78th Avenue to Beloit Avenue. The gross and net length of the project is 1,816 Feet (0.34 miles).

### DESCRIPTION OF PROJECT

The work consists of the construction of a grade separation underpass at the existing CSXT railroad tracks, including a new bridge (Structure Number 016-7721) and retaining walls (Structure Numbers 016-7722, 016-7723, 016-7724, 016-7725, 016-7726). The roadway of 71st Street will be reconstructed and depressed under the new bridge with a portion of Ferdinand Avenue requiring reconstruction.

Work includes erosion control and protection, utility relocation of existing 78" and 84" storm sewers and existing 16" and 8" water main by both open cut and auguring, earth excavation and embankment, special waste excavation, removal of existing improvements, new storm sewers, detention pond expansion, pump station, curb and gutters, pavements, sidewalks, pavement marking and signage, roadway lighting, landscape, temporary jump spans, driven piles for jump spans and retaining walls, concrete abutments, steel furnishing and erection, bridge deck and railings, traffic control and protection, and all incidental and collateral work necessary to complete the improvements as shown on the plans and as described herein.

#### Work By Others:

- Utilities: Utility relocations and adjustments (by others). Reference STATUS OF UTILITIES TO BE ADJUSTED for additional information.
- CSXT Forces: Railroad improvements, inspection, and flagging including:
  - Field cutting of existing rails.
  - Furnishing all rail required for the temporary jump spans.
  - Removal of the existing warning devices.
  - Installation of the cross-overs north of the grade crossing.

- Removal of track work for the bridge installation.
- Furnishing and installing all trackwork for the bridge section.

## SOILS INFORMATION

Soil boring logs and generalized soil profiles are shown in the Plans for 71<sup>st</sup> Street.

The reports below are available for inspection at the Village of Bridgeview, Village Hall. Contact David Intorcio at (708)496-6813.

Subsurface Exploration and Structure Geotechnical Report  
Performed for the Proposed Grade Separation Project 71<sup>st</sup> Street @ CSXT/IHB Railroad  
Village of Bridgeview, IL  
Prepared by:  
Ground Engineering Consultants, Inc.  
October 2010

## MAINTENANCE OF ROADWAYS

Effective: September 30, 1985  
Revised: November 1, 1996

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

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

## STATUS OF UTILITIES TO BE ADJUSTED

Effective: January 30, 1987  
Revised: July 1, 1994

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

Name of Utility	Type	Location	Estimated Dates for Start and Completion of Relocation or Adjustment
Nicor Gas Connie Lane	Relocation of underground line due to Direct Conflict with new 16" water	Sta. 16+00 to Sta. 23+00 RT	4 Weeks – after storm sewer construction

630-388-3830	main (Prop ROW)		
Nicor Gas Connie Lane 630-388-3830	Relocation of underground line due to Direct Conflict with new profile & retaining walls	Sta. 22+12	4 Weeks – after storm sewer construction
Nicor Gas Connie Lane 630-388-3830	Relocation of underground line due to Direct Conflict with new bridge & retaining walls (Prop north ROW)	Sta. 22+12 LT to Sta. 25+00 LT	4 Weeks – after storm sewer construction
ComEd Tim Coslet 815-724-5010	Direct Conflict with 84" storm sewer installation and proposed retaining walls – 8 poles w/ aerial cables	Sta. 16+88 - Sta. 27+08 RT	Work to be completed in April, 2011
ComEd Tim Coslet 815-724-5010	78" storm sewer installation will need to support 2 poles during construction and relocate 2 poles w/ aerial cables	Sta. 58+25 - Sta. 58+61 LT Ferdinand	Work to be completed in April, 2011
Sprint James Burton 847-737-1273	Relocation of buried fiber optic cable due to Direct Conflict with new bridge & retaining walls	West RR ROW	Work performed in conjunction with the bridge construction
Level 3 Jeffrey Jackson 708-345-2423	Relocation of buried fiber optic cables due to Direct Conflict with new bridge & retaining walls	East RR ROW	Work performed in conjunction with the bridge construction
MCI/Verizon Tom Buher 708-458-6431	Relocation of buried fiber optic cable due to Direct Conflict with new bridge & retaining walls	East RR ROW	Work performed in conjunction with the bridge construction
AT&T Bob Elsinga 630-573-5452	Relocation of single underground service line due to Direct Conflict with new retaining walls	Sta. 15+00 to Sta. 19+65 RT	Work to be completed by April, 2011
Critical Technology Solutions Don Peters 630-737-1082	Relocation of camera equipment due to Direct Conflict with new bridge and retaining walls. Pole to be relocated by the CSXT RR.	Sta. 23+80	Work to be completed by April, 2011

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

### COMPLETION DATE PLUS WORKING DAYS

The Contractor shall complete the major items of work as specified in the contract, on or before the completion date of **11:59 PM CST on March 31, 2012**. After the completion date, an additional 32 working days will be allowed to complete the remaining off-the-road restoration work, final lighting, landscaping and items included on the formal comprehensive list of minor miscellaneous or finishing work also known as "Punch List" work.

The Contractor shall note that this completion date is based on an expedited work schedule and that time is of the essence in this contract. The Contractor agrees to begin actual work covered by this Contract after the execution of the contract by the Department and after notification by the Engineer to commence work and to prosecute the same with all due diligence so as to

complete the entire work under the Contract in accordance with the anticipated completion dates shown on pages 6-7.

All work will be completed in accordance with the schedules as shown on pages 6-7. The Contractor is expected to complete all work with no additional compensation due to delays associated with weather conditions.

No requests for additional compensation will be considered by the Department for delays due to the Railroad's review and approval process. The Contractor is directed to anticipate difficult and/or complex construction situations and to allow adequate time for Railroad review and approval.

Construction Staging:

Work shall be performed in stages generally as described in the plans. The Contractor may overlap or construct several stages together as long as traffic is maintained as specified and interim and final completion dates are met.

Closure and Detour of 71<sup>st</sup> Street: The full road closure and detour route for 71<sup>st</sup> Street can be implemented on or after 12:01 AM CST on October 1, 2011 subject to final approval of the Engineer. The 79th Street Bridge Deck Rehabilitation project (Contract No. 60465, Letting Date July 30, 2010) must be completed prior to implementation of the full road closure. The scheduled completion date for the 79<sup>th</sup> Street project is June 30, 2011 (plus five (5) working days).

Notification of Road / Entrance Closures: The Contractor must provide written notification to the Village and / or property owner at least 30 calendar days in advance of the implementation of any closures or detours.

Events at Toyota Park: The Contractor must accommodate events being held at Toyota Park. The stadium will typically host approximately 30 events in a given season. The events typically take place between April and October and are scheduled during evening or weekend hours. The listing and scheduling of events is subject to change at any given time. For current event information, visit the Toyota Park website:

<http://www.toyotapark.com/calendar/master-view.aspx>

Three lanes of traffic must be maintained for stadium events unless otherwise approved by the Engineer. The timing and schedule parameters will be coordinated with the Engineer based on the need and requirements for each individual event.

Village of Bridgeview Requirements: The Contractor must also comply with the conditions and restrictions contained in the special provision REQUIREMENTS OF THE VILLAGE OF BRIDGEVIEW.

Failure to Complete the Work on Time:

Should the Contractor fail to complete the work on or before the specified dates of completion or allowable durations of closures or within such extended time allowed by the Department, the Contractor shall be liable and shall pay to the Department in accordance with Article 108.09 of the Standard Specifications and the special provision LIQUIDATED DAMAGES.

Should the Contractor fail to open the tracks to train traffic within the allowable durations of closures or within such extended time allowed by the CSXT, the Contractor shall be liable and shall pay to the CSXT the amounts shown in the table below and referenced on pages 6-7 not as a penalty but as liquidated damages, for each hour of overrun in the contract time of allowable track closure or such extended time as may have been allowed.

Schedule of Deductions for Each Hour of Overrun in CSXT Track Shutdown Time	
Time of Overrun	Charges Per Hour
Hours 0-4	\$ 2,500
Hours 4-8	\$ 4,000
Hours 8 and Beyond	\$ 6,000

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

**SCHEDULE OF RESTRICTIONS AND LIQUIDATED DAMAGES**

Construction Activity	Completion Date	Restrictions	Liquidated Damages	Description of Work
1 Toyota Park S1 Entrance reconstruction	N/A	Access must be maintained to the Toyota Park S1 parking lot for all stadium events unless otherwise approved by the Engineer.	\$3,325 per calendar day	Construct the new Toyota Park S1 parking lot entrance, including storm sewers, pavement, curb & gutter, markings and signage. Work includes the removal of the existing pavement.
2 Completion of the PepsiCo Entrance off of 71st Street	90 calendar days from the start of the closure	The construction of the PepsiCo Entrance off of 71st Street must be completed and safely open to traffic within 90 calendar days from the start of the closure unless otherwise approved by the Engineer.	\$3,325 per calendar day	Construct the PepsiCo entrance, including storm sewers, pavement, curb & gutter, markings and signage.
3 Ferdinand Avenue	N/A	A total of two (2) closures of Ferdinand Avenue will be permitted unless otherwise approved by the Engineer.	\$3,325 per calendar day of any additional closures	Closure of Ferdinand Avenue and the installation and maintenance of the detour route included in the plans.
4 Completion of all work associated with the installation of the temporary jump spans	TBD (need input from CSXT on allowable dates - if available)	The placement of the jump spans needs to be completed within the two (2), ten hour (10) windows of CSXT track shutdowns on the agreed date by the CSXT and the Engineer.	If the work associated with the placement of the jump spans exceeds the CSXT defined 10-hour track window shutdown then liquidated damages will apply subject to the Schedule of Deductions on page 5.	Refer to structural staging details included in the plans.

Construction Activity	Completion Date	Restrictions	Liquidated Damages	Description of Work
5 Completion of the east half of the bridge superstructure	November 24, 2011	The placement of the east half of the bridge superstructure needs to be completed and open to train traffic within the twenty-four (24) window of CSXT track shutdown on the agreed date by the CSXT and the Engineer.	If the work associated with the placement of the east half of the bridge superstructure exceeds the CSXT defined 24-hour track window shutdown then liquidated damages will apply subject to the Schedule of Deductions on page 5.	Refer to structural staging details included in the plans.
6 Completion of the west half of the bridge superstructure	December 25, 2011	The placement of the west half of the bridge superstructure needs to be completed and open to train traffic within the twenty-four (24) window of CSXT track shutdown on the agreed date by the CSXT and the Engineer.	If the work associated with the placement of the west half of the bridge superstructure exceeds the CSXT defined 24-hour track window shutdown then liquidated damages will apply subject to the Schedule of Deductions on page 5.	Refer to structural staging details included in the plans.
7 Completion of the work items required to safely open all roadways to traffic	March 31, 2012	A minimum of one lane of traffic in each direction must be provided on all roadways not later than 11:59 PM CST. Three lanes of traffic must be maintained during stadium events unless otherwise approved by the Engineer.	\$3,325 per calendar day	This work includes completion of the retaining walls, removals, storm sewers, roadway improvements, lift station, and sign-off by the Engineer.
8 All remaining Work including restoration, landscaping, and punch list items.	32 working days following completion of item 7 above.		\$4,650 per working day	This work includes the remaining work not required to safely open the roadways to traffic, including but not limited to off-the-road restoration work, final lighting, landscaping and punch list items.



**REQUIREMENTS OF THE VILLAGE OF BRIDGEVIEW**

The Contractor shall conform to all local codes and obtain permits as required by the Village of Bridgeview, IL, including the Noise Restriction Ordinance No. 07-16. Additional working hours are outlined below:

<u>Work Item</u>	<u>Day of the Week</u>	<u>Allowable Hours of Work</u>
Piles and Sheeting at the CSXT ROW	Monday thru Sunday	7:00 AM to 10:00 PM
Sheeting for Jump Span installations	TBD	7:00 AM to 10:00 PM
Jump Span installations	TBD	Times TBD - 10 hours continuous on the agreed date by the CSXT and the Engineer.
Completion of the east half of the bridge superstructure	November 24, 2011	24 hours continuous
Completion of the west half of the bridge superstructure	December 25, 2011	24 hours continuous
All other work	Monday thru Saturday	7:00 AM to 7:00 PM

*Note: A variance may be obtained from the Village to extend the days and times for the project.*

Any requests for a variance must be submitted to the Engineer for review and further consideration. Variations from this Ordinance will be permitted only with the approval of the Engineer and the Village of Bridgeview.

Building contractors shall obtain a license and post a bond as required by the Village Code of Bridgeview. All work must be in compliance with the International Building Code.

**INSURANCE REQUIREMENTS (COMED)**

Description: Insurance for work on ComEd property shall be carried according to Article 107.27 of the Standard Specifications, except the limits are revised as follows:

For Employer’s Liability insurance, limits shall not be less than \$1,000,000 for each accident/occurrence.

For Commercial General Liability (CGL), limits shall not be less than \$4,000,000 per occurrence covering liability for bodily injury and property damage arising from premises, operations, independent contractors, personal injury/advertising injury, blanket contractual liability and products/completed operations for not less than three (3) years from the date the work is accepted.

For Automobile Liability, limits shall not be less than \$1,000,000 per accident for bodily injury and property damage, covering all owned, Easement, rented or non-owned vehicles, which shall include automobile contractual liability coverage.

## NAMED INSURED & ADDRESS

Commonwealth Edison Company  
Director of Real Estate Services  
Three Lincoln Centre  
Oakbrook Terrace IL 60181

For ComED Insurance Information Contact: Douglas Targett

Approval of Insurance: The original and one certified copy of each required policy shall be submitted to the following address for approval:

Village of Bridgeview  
Attention: Bill Cronch  
7500 South Oketo Avenue  
Bridgeview, Illinois 60455

The Contractor will be advised when the Village has granted approval of the insurance. Before any work begins on ComEd right-of-way, the Contractor shall submit to the Engineer evidence that the required insurance has been approved by the Village. The Contractor shall also provide the Engineer with the expiration date of each required policy.

Basis of Payment: The additional insurance requirements for ComEd will not be paid for separately and are considered incidental to the work.

## 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:

701101-02, 701106-02, 701311-03, 701606-07,  
701701-07, 701801-04, 701901-01

PLANS AND DETAILS:

GENERAL NOTES

TRAFFIC CONTROL GENERAL NOTES

TRAFFIC CONTROL DETOUR PLAN

SUGGESTED CONSTRUCTION STAGING

WORK ZONE AND STAGING REQUIREMENTS PLAN

DISTRICT ONE STANDARDS – TC 10

TC 13

TC 18

TC 22

TC 26

SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS:

PERSONAL PROTECTIVE EQUIPMENT

RECURRING LOCAL ROADS AND STREETS SPECIAL PROVISIONS

WORK ZONE TRAFFIC CONTROL

FLAGGERS IN WORK ZONES

BDE SPECIAL PROVISIONS:

FLAGGERS AT SIDE ROADS AND ENTRANCES

SPECIAL PROVISIONS:

TEMPORARY INFORMATION SIGNING

TRAFFIC CONTROL AND PROTECTION (SPECIAL)

TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR

TEMPORARY PAVEMENT

**TRAFFIC CONTROL AND PROTECTION (SPECIAL)**

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

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

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

Traffic Control Devices include signs and their supports, signals, pavement markings, barricades with sand bags, channelizing devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

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

The Contractor shall be responsible for the proper location, installation and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor shall immediately remove, cover or turn from the view of the motorists all traffic control devices which are inconsistent with detour or lane assignment patterns and conflicting conditions during the transition from one construction stage to another. When the Contractor elects to cover conflicting or inappropriate signing, materials used shall totally block out reflectivity of the sign and shall cover the entire sign. The method used for covering the signing shall meet with the approval of the Engineer.

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

The Contractor shall ensure that all traffic control devices installed by him are operational, functional and effective 24 hours a day, including Sundays and holidays.

Signs: All signs, except those referring to daily lane closures, shall be post mounted in accordance with Standard 702001 for all projects that exceed four days.

Throughout the duration of this project, all existing traffic signs shall be maintained by the Contractor unless otherwise directed by the Engineer. All provisions of Article 107.25 of the Standard Specifications shall apply, except the third paragraph shall be revised to read: "The Contractor shall maintain, furnish and replace at his own expense, any traffic sign or post which the Engineer determines has been damaged or lost by the Contractor or a third party."

Barricades: Any drop off greater than 3 inches (75mm), within 8 feet (2.5 m) of the pavement edge shall be protected by Type I or II barricades equipped with mono-directional steady burn lights at 25 feet (8 m) center to center spacing. Barricades that are placed in excavated areas shall have leg extensions installed such that the top of the barricade is in compliance with the height requirements of Standard 702001.

All Type I and Type II barricades, drums, and vertical panels shall be equipped with a steady burn light when used during hours of darkness unless otherwise stated herein.

Public Convenience and Safety: At the preconstruction conference, the Contractor shall furnish the name of the individual in his direct employ who is to be responsible for the installation and maintenance of the Traffic Control for this project. The Contractor shall also provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis to receive

notification of any deficiencies regarding traffic control and protection. The Contractor shall dispatch men, materials and equipment to correct any such deficiencies. The Contractor shall respond to any call from the Department concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two hours from the time of notification.

Personal vehicles shall not park within the right-of-way except in specific areas designated by the Engineer.

No road closure, lane closures or restriction shall be permitted without prior approval by the Engineer.

Method of Measurement: This item of work will be measured on a lump sum basis for furnishing, installing, maintaining, replacing, relocating and removing the traffic control devices required in the plans, specifications and these Special Provisions.

Basis of Payment: This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL), which price shall be payment in full for all labor, materials, transportation, handling and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices indicated in the plans, specifications and these Special Provisions. The salvage value of the materials removed shall be reflected in the bid price for this item.

Delays to the Contractor caused by complying with these requirements will be considered incidental to the item for Traffic Control and Protection, and no additional compensation will be allowed.

## **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.

## **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 REQUIREMENTS**

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.

## VIDEO TAPING CONSTRUCTION ROUTE

Prior to the start of any construction or excavation, the contractor shall videotape the existing conditions in the area of the construction route. The videotaping shall be done on standard VHS color tape or DVD. The contractor shall supply the engineer with two copies of the video prior to starting construction. The video tape or DVD shall include the following:

- Full right-of-way
- Parkway condition
- Pavement condition
- Curb condition
- Driveway condition
- Existing manholes
- Fire hydrants
- Fences
- Trees and landscaped areas

The videotape or DVD recordings shall also supply a continuous audio record of the location (preferably with address), all anticipated problem areas, items, and features for the complete area to be affected by the construction.

The format of recording and type of tape or DVD used shall remain the same throughout the project. If a videotape recording is used it shall be made on magnetic tape, which shall produce a clear, stable image with a resolution of not less than 450 lines. When the recorded video information is replayed and reviewed, it shall be free of electrical interference.

The audio portion of the composite signal shall be sufficiently free of electrical interference, background noise, and heavy foreign or regional accents to provide an oral report that is clear and complete and easily discernible. The audio portion of the videotape report shall be recorded by the operating technician on the videotapes as they are being produced and shall include references to the street address and type of construction to be performed at the site as specified in the plans. Audio comments pertaining to special circumstances, which may arise during the excavation, shall also be included. Dubbing the audio information onto the video tract after the videotaping is completed will not be permitted.

Videotape or DVD recordings shall be enclosed in vinyl plastic containers, which shall clearly indicate the date the tape was taken, the designated section(s) of construction contained on the tape, and the label "VILLAGE OF BRIDGEVIEW, 71<sup>ST</sup> ST GRADE SEPARATION (Contract No. 63556)".

Two copies of the video shall be supplied to the Engineer for review prior to the start of any construction.

The surface condition of excavated areas after final restoration shall be the same or better than the pre-construction site conditions as shown in the videotape. The cost of videotaping, DVD or tape and log preparation shall not be compensated for separately, but shall be considered included in the cost of MOBILIZATION.

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

## **TEMPORARY PAVEMENT**

Effective: March 1, 2003

Revised: April 10, 2008

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

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

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

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

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

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

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

## **SPECIAL WASTE DISPOSAL**

### Description

This specification is for the permitting, excavation, loading, hauling, and removal of special waste and nonhazardous special waste soils from project site. Characterization of fill soils in the area of proposed excavation on the project site were performed in June 2010 and supplemental work in October 2010. Thirty nine soil samples were collected and submitted for analysis from the planned

underpass work area. The characterization of the fill soils are detailed in a letter reports dated July 28, 2010 and November 4, 2010. Based on the work performed, fill soils in the area of the proposed excavations were classified as non-hazardous, special waste as defined by Title 35, Subtitle G. Fill spoils (approximately 3 feet thick) from the area illustrated on the Special Waste Plan will require off-site disposal are to be managed as non-hazardous, special waste unless they are determined to be otherwise.

This part only applies to those soils that are classified as:

1. Special Wastes as defined in Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board; Subchapter i: Solid Waste and Special Waste Hauling; Part 808: Special Waste Classifications; Subpart A: General Provisions; Section 808.110.
2. Nonhazardous Special Waste as defined in Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board; Subchapter i: Solid Waste and Special Waste Hauling; Part 809: Non Hazardous Special Waste Classifications; Subpart A: General Provisions; Section 809.103.

Work included: This specification is for the permitting, excavation, loading, hauling, and removal of special waste, nonhazardous special waste, and hazardous wastes soils from the project site. The Contractor shall perform the work under this section in accordance with all applicable local, county, IEPA, USEPA, and OSHA regulations and shall perform the following:

3. Prior to excavation of any special waste or nonhazardous special waste soils from the project site, obtain authorization for ultimate disposition of soils at a landfill facility approved by Engineer.
4. The contractor is to remove all special waste or nonhazardous special waste soils at the site to the extent instructed by the Engineer.
5. Load special waste, nonhazardous special waste soils into licensed special waste trucks, containers or vessels for final disposition as per item 1, above.
6. Provide copies of all daily reports, transport manifests, weight tickets, and disposal receipts to the Engineer on a daily basis.

Contractor shall comply with all applicable regulatory requirements and other federal, state or local laws, codes and ordinances that govern or regulate the handling, transportation and disposal of special waste, nonhazardous special waste, and hazardous waste soils. The Contractor shall mark, label, placard, package and manifest special waste, nonhazardous special waste, and hazardous waste soils as necessary in accordance with all applicable state, federal and local regulations. The Contractor shall ensure protection against spillage of special waste, nonhazardous special waste, and hazardous waste soils. The Contractor shall handle all special waste and/or nonhazardous special waste soils in accordance with all applicable federal, state and local laws, regulations and ordinance.

### Definitions

The Engineer: The person or entity designated as the official representative of IDOT in connection with a project.

CDL: Commercial driver's License.

CFR: Code of Federal Regulations.

IEPA: Illinois Environmental Protection Agency.

Manifest: The form provided or prescribed by IEPA and used for identifying name, quality, routing, and destination of special waste, nonhazardous special waste, and hazardous waste soils during its transportation from point of generation to the point of disposal, treatment, or storage.

Remediation Area means any area on site where non-special waste and/or non-hazardous special waste, or soil that does not meet Tier 1 SROs for residential properties is present.

Special Waste: Any wastes as defined in Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board; Subchapter i: Solid Waste and Special Waste Hauling; Part 808: Special Waste Classifications; Subpart A: General Provisions; Section 808.110.

AND

Any wastes as defined in Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board; Subchapter i: Solid Waste and Special Waste Hauling; Part 809: Non Hazardous Special Waste Classifications; Subpart A: General Provisions; Section 809.103.

USEPA: United States Environmental protection Agency

#### Submittals

Prior to removal of any soils from the site or backfilling any areas, the Contractor shall provide the Engineer with copies of the following submittals:

- i. Name, address and telephone number of the Permitted Subtitle D landfill where special waste and/or nonhazardous special waste soils are to be deposited. This information should include, at a minimum, the following:
  1. Name
  2. Address
  3. Telephone Number
  4. Site Contact
  5. Illinois Facility Identification Number
  6. State and Local Operational Permit Number(s)
- ii. Authorization and/or permit from the Permitted Subtitle D landfill where special waste, nonhazardous special waste, or hazardous waste soils are to be deposited prior to removal of soils from the site. The authorization must also include a statement indicating that the facility or licensed disposal facility has received a copy of the soils analysis report that classified the soils as a special waste, nonhazardous special waste, or hazardous waste.
- iii. Contractor's Site-Specific Health and Safety Plan.
- iv. Proof of OSHA training in compliance with the Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) for applicable workers.
- v. Operating licenses and special waste or hazardous waste permits for each proposed transporter. Details of haul routes from site to the disposal facilities.
- vi. Copies of waste stream authorizations, and permits as applicable.

- vii. Copies of all daily reports, transport manifests, weight tickets and disposal receipts to the Engineer on a daily basis.

Review of submittals or any comments made does not relieve the Contractor from compliance with the requirements of the drawings and specifications. The purpose of this check is to review for general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor is responsible for confirming and correlating all quantities and dimensions; electing techniques of construction; coordinating the Work; and performing the Work in a safe and satisfactory manner.

#### Notifications

The Contractor shall notify the Engineer no less than two (2) business days prior to loading and transporting soils from the site.

#### Removal and Disposal of Soils

The Contractor shall furnish all necessary means, products, tools, and equipment required to fulfill the scope of work described in the Specifications and Drawings for this Project.

#### Authorizations

The Contractor shall obtain written authorization from the Permitted Subtitle D landfill facility receiving special waste or nonhazardous special waste soils. Contractor shall submit the names, addresses and telephone numbers of the facility receiving site soils and/or special wastes, non-hazardous special waste to the Engineer.

Haulers for transportation of special wastes, non-hazardous special waste, or hazardous soils shall hold a current, valid waste hauling permit pursuant to 35 IAC 809.

#### Material Sampling

The Contractor shall, at contractors own cost, collect sufficient amount of representative soils sample from the site for analysis to obtain authorization for the ultimate disposition of special wastes, non-hazardous special waste or hazardous waste soils. The contractor is responsible for acquisition of any required Permitted Subtitle D landfill disposal permits and payment of all sampling, analysis costs and permitting fees.

The Contractor shall submit the soils samples to the laboratory and pay for the cost of analyzing the constituents required for the ultimate disposition of special wastes or non-hazardous special waste soils as needed.

The Engineer may collect soils samples for laboratory analysis or field Photo-ionization Detector (PID) screening if requested by the Engineer. The Contractor shall provide the necessary equipment and manpower to assist the Engineer collecting soils samples at no additional cost.

The Contractor shall immediately notify the Engineer if soils and/or materials requiring special handling are encountered in areas not identified in site drawings.

All excavated special waste and/or nonhazardous special waste soils shall be removed from the site in accordance with applicable federal, state and local regulations.

#### Excavation

The Contractor shall perform removal of site soils to the extent shown on Special Waste Plan and deemed necessary by the Engineer. Removal of site soils shall be performed in accordance with OSHA requirements and guidelines.

#### Decontamination

The Contractor shall remove soils, dust, rocks, etc. from the exterior of trucks, trailers, or other heavy equipment leaving the site.

The Contractor shall clean the tractor-trailers or trucks that are loaded with materials for disposal/salvage by removing clinging soils, rocks from the exterior of the equipment.

The Contractor shall not allow equipment or trucks to leave the site with water leaking or mud dripping or caked to the equipment or trucks.

The Contractor must transport all materials in covered trailers.

#### Stockpiling

Contractor may stockpile special wastes, non-hazardous special waste, or hazardous waste soils on site for a maximum of five (5) working days. The Contractor shall be responsible for keeping such soil separated from soils that are not designated as special wastes, non-hazardous special waste, or hazardous waste. If special wastes, non-hazardous special waste, or hazardous waste soil comes in contact with soils that are not designated as special wastes, non-hazardous special waste, or hazardous waste, the former non-special waste soils will now be considered special wastes, non-hazardous special waste, or hazardous waste soils, and the Contractor shall dispose of newly designated soils as special wastes, non-hazardous special waste, or hazardous waste soils at its own expense. The Contractor will be responsible for sampling analysis costs associated with characterization of newly designated soils as special wastes, non-hazardous special waste, or hazardous waste soil/materials.

The location of the stockpile area shall be coordinated with the Engineer. The Contractor shall keep special wastes, non-hazardous special waste, or hazardous waste soils, covered with 6-mil polyethylene visqueen or containerized until subsequent loading, transportation and disposal. For stockpiled soils, provide a 12" to 18" berm around the stockpile. Base sheeting shall overlap the dike.

The Contractor shall not allow runoff from stockpiled soil/materials to enter storm drains or leave the site.

#### Loading and Transportation

The Contractor shall load special, nonhazardous special or hazardous waste soil/materials directly from the site or from temporary stockpiles into hauling trucks for subsequent transportation and ultimate disposition.

The special, nonhazardous special or hazardous waste soil/materials shall be transported by a licensed hauler, licensed in the state of Illinois to transport site soils and/or special wastes, non-hazardous special waste, or hazardous waste soil/materials as applicable.

All soils must be transported directly to the disposal site from the construction site. Intermediate storage is not permitted.

The Contractor shall provide and complete copies of all daily reports, transport manifests, weight tickets and receipts (as applicable) for transportation and ultimate disposition of the soil/materials to the Engineer for review and signature as required.

The Transporter shall present evidence of Special Waste hauling permits and CDL upon request by the Engineer.

The Contractor is responsible for complying with State and local Road/Street weight limits.

#### Disposal

The Contractor shall provide copies of weight tickets and/or volume (cubic yards or tons) receipts from the Permitted Subtitle D landfill facility accepting special, nonhazardous special or hazardous waste soil/materials to the Engineer within two business days.

The Contractor shall provide copies of completed daily reports, transport manifests, weight tickets and receipts (as applicable) executed by transporter and the facility accepting the special and/or nonhazardous special waste soils to the Engineer as required.

#### Dust Control

The Contractor shall control dust by all necessary means, including but not limited to covering trucks, stockpiles and open materials, watering haul roads, sweeping paved roads, and limiting the speed of all on-site vehicles. If such controls are not effective, the contractor shall apply dust suppression agents to exposed sources of dust at no additional cost.

#### Method of Measurement

This work shall be measured for payment in cubic yards.

#### Basis of Payment

The excavation, transportation, and disposal of the special and/or nonhazardous special waste soils will be paid for at the contract unit price per cubic yard for SPECIAL WASTE DISPOSAL.

### **CLEAN CONSTRUCTION DEMOLITION DEBRIS ACT**

Description: This work consists of compliance with the Clean Construction or Demolition Debris (CCDD) act (Public Act 96-1416). Additional information is available through the Illinois EPA website:

<http://www.epa.state.il.us/land/ccdd/index.html>

hauling and disposal of all surplus, unstable, and unusable materials and organic waste which are excavated and not reused onsite that cannot be certified as Clean Construction or Demolition Debris by a Licensed Professional Engineer representing the Contractor.

Definitions: For the purposes of these specifications the following definitions apply:

CLEAN CONSTRUCTION OR DEMOLITION DEBRIS (CCDD) is uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed asphalt pavement generated from construction or demolition activities. When uncontaminated soil is mixed with any of these materials, the uncontaminated soil is also considered CCDD. Uncontaminated soil that is not mixed with other CCDD materials is not CCDD.

SPECIAL WASTE is defined as all material that cannot be certified as CCDD and must be hauled offsite for disposal.

UNCONTAMINATED SOIL is soil that does not contain contaminants in concentrations that pose a threat to human health, safety and the environment.

Construction Requirements: The Contractor must comply with requirements of Public Act 96-1416.

The Contractor must test all excavated materials to be hauled off site for the presence of contaminated substances. Based on these tests, material that a Licensed Professional Engineer representing the Contractor will certify as CCDD, signing and sealing IEPA form LPC-663, will be disposed of as EARTH EXCAVATION.

Any excavated material that the Contractor's Licensed Professional Engineer will not certify as CCDD will be disposed of as NONHAZARDOUS SPECIAL AND NON- SPECIAL WASTE SOIL REMOVAL AND DISPOSAL.

When contaminated material is suspected or encountered, the Contractor must properly obtain and submit samples of the material to an approved laboratory for analysis in accordance with Article 669.08. The analytical results will serve to document the level of soil contamination as required by the disposal facility.

Method of Measurement: The Contractor must provide testing services and a Licensed Professional Engineer authorized to certify materials by signing and sealing IEPA form LPC-663 on behalf of the Contractor. Testing and certification services for excavated materials will not be measured separately for payment.

Basis of Payment: Testing and certification services for excavated materials will not be paid for separately and are considered incidental to the work.

## **POROUS GRANULAR EMBANKMENT, SUBGRADE**

Effective: September 30, 1985

Revised: August 1, 2008

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

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

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

2. Gravel\*\* and Crushed Gravel

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

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

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

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

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

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

Full depth subgrade undercut should occur at limits determined by the Engineer. A transition slope to the full depth of undercut shall be made outside of the undercut limits at a taper of 1 foot (300

mm) longitudinal per 1 inch (25 mm) depth below the proposed subgrade or bottom of the proposed aggregate subgrade when included in the contract.

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

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

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

### **AGGREGATE SUBGRADE, 12" (300 MM)**

Effective: May 1, 1990  
 Revised: August 1, 2008

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

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

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

2. Gravel\* and Crushed Gravel

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

3. Crushed Concrete with Bituminous Materials\*\*

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

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

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

The Aggregate subgrade shall be placed in two lifts consisting of a 9 inch (225 mm) and variable nominal thickness lower lift and a 3 inch (75 mm) nominal thickness top lift of capping aggregate having a gradation of CA 6. The CA 6 may be blended as follows. The bituminous materials shall be separated and mechanically blended with interlocking feeders with crushed concrete or natural aggregate, in a manner that the bituminous material does not exceed 40% of the final product. This process shall be approved by the engineer prior to start of production. The top side of the bituminous material in the final products shall be less than 1 ½ inches (37.5 mm) and shall not contain any material considered expansive by the department. Reclaimed Asphalt Pavement (RAP) (having a maximum of 10% steel slag RAP) meeting the requirements of Section 1031 and having 100% passing the 1 ½ inches (37.5 mm) sieve and well graded down through fines may also be used as capping aggregate. IDOT testing of the RAP material will be used in determining the percent of steel slag RAP or Expansive Material. When the contract specifies that an aggregate subbase is to be placed on the Aggregate Subgrade, the 3 inches (75 mm) of capping aggregate will be eliminated. A vibratory roller meeting the requirements of Article 1101.01(g) of the Standard Specifications shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

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

#### Method of Measurement.

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

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

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE, 12" (AGGREGATE SUBGRADE, 300 mm).

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

Effective: May 1, 2007  
 Revised: January 15, 2010

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

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

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

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

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

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

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

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

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

**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)
HMA High ESAL	D Surface IL-12.5 or IL-9.5	Crushed Gravel Crushed Stone (other than Limestone) Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag (except when used as leveling binder)  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.

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

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

quality or better. For All Other courses, the coarse aggregate shall be Class D quality or better.

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

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

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

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

#### **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).”

#### **USE OF RAP (DIST 1)**

Effective: January 1, 2007

Revised: September 15, 2010

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)		± 5%
3/4 in. (19 mm)		
1/2 in. (12.5 mm)	± 8%	± 15%
No. 4 (4.75 mm)	± 6%	± 13%
No. 8 (2.36 mm)	±5%	
No. 16 (1.18 mm)		± 15%
No. 30 (600 μm)	± 5%	
No. 200 (75 μm)	± 2.0%	± 4.0%
Asphalt Binder	± 0.4% <sup>1/</sup>	± 0.5%
G <sub>mm</sub>	±0.02 <sup>2/</sup>	
G <sub>mm</sub>	±0.03 <sup>3/</sup>	

- 1/ The tolerance for conglomerate 3/8 shall be ± 0.3 %.
- 2/ Applies only to conglomerate 3/8. When variation of the G<sub>mm</sub> exceeds the ± 0.02 tolerance, a new conglomerate 3/8 stockpile shall be created which will also require an additional mix design.
- 3/ Applies only to conglomerate variable size. When variation of the G<sub>mm</sub> 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.

## **USE OF RAS (D-1)**

Effective: August 15, 2010

Revised: October 25, 2010

Description: Reclaimed asphalt shingles (RAS) meeting Type 1 or Type 2 requirements will be permitted in HMA mixtures as specified herein for overlay applications only. RAS shall not be used in full depth HMA pavement. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable materials, as defined in Bureau of Materials and Physical Research Policy Memorandum 28-10.0, by weight of RAS. All RAS used shall come from a BMPR approved processing facility.

Definitions: RAS shall meet either Type 1 or Type 2 requirements as specified herein.

- (a) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
- (b) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

Stockpiles: RAS shall be ground and processed to 100 percent passing the 3/8 in. sieve and 93 percent passing the #4 sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise approved by the Engineer, mechanically blending a maximum of 5.0 percent by weight of the aggregate blend in HMA design, manufactured sand (FM20 or FM 22) with the processed RAS will be permitted to improve workability. The sand shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type and lot number shall be filed by Department contract number and kept for a minimum of 3 years.

Testing: RAS shall be sampled and tested during stockpiling.

For testing during stockpiling, washed extraction,  $G_{mm}$  and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 250 tons (225 metric tons) thereafter. A minimum

of five tests are required to establish an average gradation and asphalt cement content of the RAS for use in an HMA mix design. A Bulk Specific Gravity value of 2.300 shall be used for RAS when used in an HMA mix design. Other Gravity Values may be used in an HMA design but shall be verified by the Department.

Before testing, each field sample shall be split to obtain two samples. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

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

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 μm)	± 4%
No. 200 (75 μm)	± 2.0 %
Asphalt Binder Content	± 1.5 %
$G_{mm}$	± 0.04

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

**Use of RAS in HMA.** Type 1 or Type 2 RAS may be used in All HMA Mixtures as follows:

(a) SMA and High ESAL Surface Mixes:

(1) The maximum allowable RAS usage in SMA and IL 4.75 shall be as follows:

- a. RAS shall not exceed 5.0 percent by weight of total mix.
- b. If used in conjunction with Reclaimed Asphalt Pavement (RAP) the contribution of asphalt binder from the RAS and RAP combined shall not exceed 20 percent of the total asphalt binder.

(2) The virgin asphalt binder grade shall be as follows:

Mix Type	Percent RAS/RAP Asphalt Binder Replacement	
	< 10%	10-20%

	Type 1	Type 2	Type 1	Type 2
SMA and High ESAL Surface Mixes	No grade <sup>1/</sup> bump	No grade <sup>1/</sup> bump	Reduce high temperature by one grade <sup>1/</sup>	Reduce high temperature by one grade <sup>1/</sup>

1/ One asphalt binder grade bump represents a change of 6° Celsius.

b) High ESAL Binder and Leveling Binder Mixes:

(1) The maximum allowable RAS usage in HMA High ESAL Binder and Leveling Binder Mixes shall be as follows:

- a. RAS shall not exceed 5.0 percent by total weight of mix.
- b. If used in conjunction with RAP the contribution of asphalt binder from the RAS and RAP combined shall not exceed 30 percent of the total asphalt binder.

(2) Virgin asphalt binder grade shall be as follows:

Mix Type	Percent RAS/RAP Asphalt Binder Replacement			
	10-19%		20-30%	
	Type 1	Type 2	Type 1	Type 2
High ESAL Binder and Leveling Binder Mixes	No grade <sup>1/</sup> bump	Reduce high temperature by one grade <sup>1/</sup>	Reduce high & low temperature by one grade <sup>1/</sup>	Reduce high & low temperature by one grade <sup>1/</sup>

1/ One asphalt binder grade bump represents a change of 6° Celsius.

2/ No grade bump necessary for percent RAS/RAP/FRAP asphalt binder replacement less than 10 percent

c) HMA Low ESAL and HMA "All Other"

(1) The maximum allowable RAS usage in HMA Low ESAL and HMA "All Other" mixtures shall be as follows:

- a. RAS shall not exceed 5.0 percent by total weight of mix.
- b. If used in conjunction with RAP the contribution of asphalt binder from the RAS and RAP combined shall not exceed 40 percent of the total asphalt binder.

(2) Virgin asphalt binder grade shall be as follows:

Mix Type	Percent RAS/RAP Asphalt Binder Replacement			
	< 20%		20-40%	
	Type 1	Type 2	Type 1	Type 2
HMA Low ESAL and HMA "All Other"	No grade <sup>1/</sup> bump	Reduce low temperature by one grade <sup>1/</sup>	Reduce high & low temperature by one grade <sup>1/</sup>	Reduce high & low temperature by one grade <sup>1/</sup>

1/ One asphalt binder grade bump represents a change of 6° Celsius.

**HMA Mix Designs.** RAS and RAS/RAP designs shall be submitted for volumetric verification. Type 1 and Type 2 RAS are not interchangeable in a mix design.

**HMA Production.** RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that mixture production is halted when RAS flow is interrupted.

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

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

(a) Dryer Drum Plants.

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

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

(b) Batch Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- (4) Mineral filler weight to the nearest pound (kilogram).
- (5) RAS weight to the nearest pound (kilogram).
- (6) Virgin asphalt binder weight to the nearest pound (kilogram).
- (7) Residual asphalt binder in the RAS material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter."

**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. (19 mm) 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 <sup>1/3/</sup>		Maximum % RAP	
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified
30	30/40 <sup>2/</sup>	30	10
50	25/40 <sup>2/4/</sup>	15/25 <sup>2/</sup>	10 <sup>4/</sup>
70	25/30 <sup>2/</sup>	10/20 <sup>2/</sup>	10
90	25/30 <sup>2/</sup>	10/15 <sup>2/</sup>	10
105	25/30 <sup>2/</sup>	10/15 <sup>2/</sup>	10

- 1/ For HMA Shoulder and Stabilized Sub-Base (HMA) N-30, the amount of RAP shall not exceed 50 percent of the mixture.
- 2/ Value of Max percent RAP if 3/8 Rap or conglomerate variable size RAP is utilized.
- 3/ When RAP exceeds 20 percent the AC shall be PG58 -22. However, when RAP exceeds 20 percent and is used in full depth HMA pavement the AC shall be PG58 -28.
- 4/ Polymerized Leveling Binder, IL-4.75 is 15 percent

**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) 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.

#### **EPOXY COATING ON REINFORCEMENT (DISTRICT ONE)**

Effective: January 1, 2007  
Revised: July 20, 2010

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

#### **DRILL AND GROUT #6 TIE BARS**

Description: This item consists of furnishing and installing epoxy coated dowel or tie bars in existing Portland Cement Concrete (PCC) where new PCC pavements or curbs and gutters are poured against existing PCC pavements or curbs and gutters at locations shown on the Plans and as directed by the Engineer.

Materials: Conform to Article 1006.06 of the Standard Specifications for Dowel Rods and Article 1024.01 of the Standard Specifications for Nonshrink Grout. Epoxy adhesive will not be allowed.

General Requirements: Perform Work in accordance to Sections 420 and 442 of the Standard Specifications, except as herein modified.

Bars must be located as indicated on the Plans or as directed by the Engineer. Individual bar locations must be shifted at least 5 inches away from existing cracks, joints and unsound concrete.

Holes for tie bars must be drilled with suitable equipment for this purpose to the depth shown and to a diameter large enough to allow grouting around the dowel bar or tie bar. The dowel bars or tie bar must be secured in the drilled holes with nonshrink grout or chemical adhesives. The grout must be allowed to cure before the concrete for new pavements are poured.

Method of Measurement: This Work will be measured on a per each basis, except where noted on the plans or in these special provisions. Dowel and tie bars used for new Portland Cement Concrete (PCC) pavements or curb and gutters will not be measured separately but will be included in the bid price for those items.

Basis of Payment: This Work will be paid for at the Contract Unit Price per each for DRILL AND GROUT #6 TIE BARS, which price will be payment in full for performing the Work described herein.

## **BACKFILLING STORM SEWER UNDER ROADWAY**

Effective: September 30, 1985

Revised: July 2, 1994

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

## **RAILROAD TRACK REMOVAL**

This work shall consist of the removal and disposal of railroad tracks, ties and ballast at the location shown on the plans. The disposal of materials removed shall be done according to Section 202.03 of the Standard Specifications.

The tracks will be removed so that the removal will not damage the existing track that is to remain. Any damage to the tracks that are to remain will be repaired at the contractor's expense.

The existing railroad stop located at the end of the spur track is to be relocated to the temporary easement line. This work will be incidental to RAILROAD TRACK REMOVAL.

Method of Measurement: Measurement shall be made along the centerline of existing track that is removed.

Basis of Payment: The removal of the existing railroad tracks will be paid for at the contract unit price per lineal foot for RAILROAD TRACK REMOVAL.

## **PIPE ELBOW**

This work shall be in accordance with the applicable portions of Section 542 of the Standard Specifications. The pipe elbow shall be constructed of reinforced concrete according to Article 1042.06 at the locations as indicated on the plans.

Basis of Payment: The cost for furnishing all labor, materials and equipment necessary for excavation, construction of the pipe elbow shall be paid for at the contract unit price of EACH for PIPE ELBOW [SPECIFIED SIZE].

## **PRECAST TRANSITION PIPE, [SPECIFIED SIZE] DIAMETER STORM SEWER**

This work consists of constructing a precast transition pipe in accordance with Section 550 of the Standard Specifications and conforming to the lines, grades and dimensions shown in the plans and as directed by the Engineer.

Precast transition pipes shall conform to the AASHTO requirements of the adjacent connecting pipe of the higher class. Whatever length is necessary to transition from one size to the other, it shall be paid for as one transition of the designated size.

Basis of Payment: This work shall be paid for at the contract unit price per EACH for PRECAST TRANSITION PIPE, [SPECIFIED SIZE] DIAMETER STORM SEWER, which price includes all labor, material and equipment necessary to construct and install the precast transition pipe as specified herein. Transition pipes will not be included in the footage for pay items of its respective size storm sewer.

## **PRECAST "T" MANHOLES FOR 78" DIAMETER STORM SEWER, TYPE 1 FRAME , CLOSED LID**

This work shall be in accordance with Sections 550, 602 and 604 of the Standard Specifications except as modified herein. The manhole structure shall be according to the details in the plans.

Basis of Payment: The cost for furnishing all labor, materials and equipment necessary for excavation, construction and backfilling of the tee manhole will be paid for at the contract unit price of EACH for PRECAST "T" MANHOLES FOR 78" DIAMETER STORM SEWER, TYPE 1 FRAME, CLOSED LID.

## **PRECAST "T" MANHOLES FOR 84" DIAMETER STORM SEWER, TYPE 1 FRAME , CLOSED LID**

This work shall be in accordance with Sections 550, 602 and 604 of the Standard Specifications except as modified herein. The manhole structure shall be according to the details in the plans.

Basis of Payment: The cost for furnishing all labor, materials and equipment necessary for excavation, construction and backfilling of the tee manhole will be paid for at the contract unit price of EACH for PRECAST "T" MANHOLES FOR 84" DIAMETER STORM SEWER, TYPE 1 FRAME, CLOSED LID.

## **STORM SEWER, CLASS A**

Section 550.03 of the Standard Specifications shall be revised accordingly. For Class A type pipes, Clay Sewer pipe will not be allowed for this project.

When 10 Foot separation is not maintained between water main and the 84" sewer pipe, the joints of the pipe shall be sealed with Tylox, Type C Gaskets, or an approved equal conforming to ASTM Standards C443 and C361. This work shall be considered incidental to the storm sewer item when required.

## **FENCE REMOVAL**

Description: This work shall consist of the removal and disposal of the various types of fence and/or gates shown on the plans and should be removed to aid in the Contractor's operations.

Construction Requirements: No removal work shall be completed without the approval of the Engineer. The Contractor shall remove the fence including any concrete base for posts, below the proposed grade line, and all associated hardware and appurtenances of the existing fence. All postholes shall be backfilled and compacted to the satisfaction of the Engineer. Disposal of all materials shall be the responsibility of the Contractor. The Contractor may reflect salvage value of the fence if he deems it worthwhile.

Method of Measurement: This Work will be measured for payment on a per foot basis, as measured along the top of the fence from center to center of end post, including the length occupied by gates.

Basis of Payment: This work will be paid for at the contract unit price per foot for FENCE REMOVAL, which price will be payment in full for completing the Work as specified. No increase or decrease in payment will be allowed due to differing fence heights.

## **TEMPORARY CHAIN LINK FENCE**

This work shall be in accordance Section 664 of the Standard Specifications except as modified herein. The fence shall be installed at the locations indicated on the plans and as directed by the engineer.

This work will be paid for at the contract unit price per FOOT for TEMPORARY CHAIN LINK FENCE.

## **BOLLARD REMOVAL**

Description: This work shall consist of the removal and disposal of existing bollards at the location shown on the plans. The disposal of materials removed shall be done according to Section 202.03 of the Standard Specifications.

Construction Requirements: No removal work shall be completed without the approval of the Engineer. The Contractor shall remove the bollard including any concrete base foundation, in its entirety below grade, and all associated hardware and appurtenances of the existing bollard. All excavated areas shall be backfilled with trench backfill in accordance with Section 208 of the Standard Specifications and compacted to the satisfaction of the Engineer. The cost of backfilling will not be paid for separately but shall be considered incidental to the cost of the bollard removal. Disposal of all materials shall be the responsibility of the Contractor. The Contractor may reflect salvage value of the bollard if he deems it worthwhile.

Method of Measurement: This Work will be measured for payment on a per each basis.

Basis of Payment: This work will be paid for at the contract unit price per each for BOLLARD REMOVAL, which price will be payment in full for completing the Work as specified. No increase or decrease in payment will be allowed due to differing bollard sizes or foundations or anchoring.

## **BOLLARDS**

Description: This work shall consist of furnishing and installing bollards as shown in the plans and as specified herein.

Materials:

1. Heavy duty, round 6" diameter steel post.
2. Finish must be powder coated.
3. Color as specified on the plans.

Submittals: Submit the type of bollard and the manufacturer's literature including drawings or cut sheets, and a detailed installation specification for approval of the Engineer.

Construction Requirements: Verify layout information shown on the plans by performing field measurements. Examine and verify field conditions including utilities for areas of installation and verify that the work may properly proceed. Do not commence installation until unsatisfactory conditions have been corrected or the layout has been adjusted with the approval of the Engineer.

Install per the manufacturers specifications and procedures. Backfill excavation as required. All excavated areas located within two (2) feet of a paved area shall be backfilled with trench backfill in accordance with Section 208 of the Standard Specifications and compacted to the satisfaction of the Engineer.

Clean bollards after installation. Apply two (2) coats of repair paint compatible with finish preparation where touch-up painting is required from installation procedures. Apply primer and finish paint according to manufacturer's directions. Match the original color.

Method of Measurement: This Work will be measured for payment on a per each basis.

Basis of Payment: This work will be paid for at the contract unit price per each for BOLLARDS, which price will be payment in full for completing the Work as specified.

## **CURB REMOVAL AND REPLACEMENT**

This item shall consist of the removal and replacement of combination concrete curb and gutter/curb, in accordance with Sections 440 and 606 of the Standard Specifications, by means of a sawed joint (straight) at locations as designated by the Engineer. The replaced curb and gutter/curb shall be of the same type and size as the removed section with all new curb and gutter/curb at driveways to be depressed.

The abutting street in front of the curb & gutter/curb and all driveways, carriage walks and sidewalks behind the curb & gutter/curb shall be restored to their original condition with like material. The surfaces shall be removed by sawed joints and one-half inch (1/2") preformed joint filler shall be used between new concrete and existing concrete; where concrete driveways, walks, etc. meet curb & gutters/curbs; and between the curb & gutter/curb and all steel castings. Where curb and gutter/curb is removed at a driveway location, access to the property shall be maintained with temporary aggregate.

All existing pavement removed due to the removal and replacement of combination concrete curb and gutter/curb shall be replaced with a HMA Surface Course patch not less than six-inches (6") below the existing surface elevation. Saw cutting shall be required as directed by the Engineer to secure a straight joint. The HMA material, any temporary aggregate, required expansion material and any labor and incidentals for a complete job shall be included in the contract unit price bid per FOOT of CURB REMOVAL AND REPLACEMENT which price will include all materials, equipment and labor required to complete the work as specified above.

## **REMOVE, STOCKPILE, AND REPLACE SIGN PANEL AND SIGN PANEL ASSEMBLY (SPECIAL)**

Description: This work shall consist of removing, relocating, and/or replacing sign panels and sign panel assemblies with their supports as specified in Section 724 of the Standard Specifications with the following revisions:

Remove the last sentence of subsection (a):

~~"In no case shall the time between the removal of an existing sign panel assembly and its reinstallation be in excess of 45 minutes."~~

Remove the last sentence of subsection (b):

~~"In no case shall the time between the removal of an existing sign panel and its reinstallation be in excess of two hours, unless authorized in writing by the Engineer."~~

and replace with the following:

"The Contractor shall inventory and tag the location and orientation of each sign panel and sign panel assembly removed prior to removal. Sign panels and sign panel assemblies will be stored off the job site and public right-of-way in a dry facility until reinstallation per engineer's direction. The dates for reinstallation of sign panels and sign panel assemblies will be coordinated with the Engineer. Post-mounted sign panels assemblies will be reinstalled in their original location. Sign panels mounted to existing roadway lighting poles will be reinstalled on the nearest proposed light pole to the original location."

Basis of Payment: This work will be paid for at the contract unit price each for REMOVE, STOCKPILE, AND REPLACE SIGN PANEL AND SIGN PANEL ASSEMBLY (SPECIAL). Replacement of any sign panel hardware broken during removal of a sign panel, or any lost or stolen sign panels or hardware will be included in the cost of this item. The transport and storage of sign panels and hardware will also be included in the cost of this item.

## **DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT**

This work shall consist of the construction of various sized ductile iron water main at locations indicated on the plans or as directed by the Engineer. The water main shall be "Ductile Iron," ANSI thickness Class 52, Clow "Super Bell-Tite", "Push-On" Joint, or approved equal, and must meet all applicable requirements of ANSI A21.51, AWWA C151 (AWWA Standard for Ductile-Iron Pipe, Centrifugally Cast for Water), ANSI A21.10, AWWA C110 (AWWA Standard for Ductile Iron and Grey Iron fittings for Water), AWWA C153 (AWWA Standard for Ductile-Iron Compact Fittings For Water Service), ANSI A21.11, AWWA C111 (AWWA Standard for Ductile-Iron and Grey-Iron Fittings For Water), ANSI A21.4, AWWA C104 (AWWA Standard for Cement Water Lining for Ductile Iron Pipe and Fitting for Water) specifications.

All water mains shall be wrapped in 8-mil thick polyethylene encasement ANSI A21.5 and AWWA C105 (AWWA Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems) Method B, with pipe and joints wrapped separately.

Measurement shall be made along the centerline of water main installed. The cost for furnishing all labor, materials and equipment necessary for excavation, construction of the new water main, backfilling, all materials and labor required for wrapping the water main will be paid for at the contract unit price per FOOT for DUCTILE IRON WATERMAIN, CLASS 52, POLYETHYLENE ENCASEMENT, of the size specified.

### **DUCTILE IRON PIPE WATERMAIN, CLASS 52, POLYETHYLENE ENCASEMENT, NITRILE GASKETS**

This work shall consist of the providing and installing various sizes of ductile iron pipes to be used for water main at locations indicated on the plans or as directed by the Engineer.

Materials: The water main shall be "Ductile Iron," ANSI thickness Class 52 or Class 54, Clow "Super Bell-Tite", "Push-On" Joint, or approved equal, and must meet all applicable requirements of ANSI A21.51 (AWWA C151)[pipe]; ANSI A21.10 (AWWA C110) or AWWA C153; [fittings], ANSI A21.11 (AWWA C111)[joints], and ANSI A21.4 (AWWA C104)[pipe lining] specifications.

The water main shall be wrapped in 8-mil thick polyethylene encasement (ANSI/AWWA C105/A21.5) Method B, with pipe and joints wrapped separately.

Gaskets shall be Nitrile.

Method of Measurement: This work will be measured along the centerline of the water main installed.

Basis of Payment: This work will include the cost for furnishing all labor, materials, and equipment necessary for excavation, installation and backfilling of the new water main, all materials and labor required for wrapping the pipes, and all materials and labor required for installation of Nitrile gaskets will be paid for at the contract unit price per FOOT for DUCTILE IRON WATERMAIN, CLASS 52, POLYETHYLENE ENCASEMENT, NITRILE GASKETS, of the size specified.

### **DUCTILE IRON FITTINGS AND ACCESSORIES**

At locations indicated on the plans or as directed by the Engineer, the water main shall be constructed around existing utility structures or other obstacles by use of tees, bends or other appropriate fittings. All fittings shall be of ductile iron material with "Megalug" retainer glands or approved equal as determined by the Engineer.

All fittings shall be made from gray-iron or ductile iron and furnished with mechanical joint ends. All fittings shall have a pressure rating of 250 psi and shall be wrapped with an 8-mil thick polyethylene material per AWWA Standard C105 (AWWA Standard Polyethylene Encasement for Ductile-Iron Pipe Systems). At locations indicated on the plans or as directed by the Engineer, the

water main shall be constructed around existing utility structures or other obstacles by use of tees, bends or other appropriate fittings. Gasket material identical to that described above shall be utilized at all joints and fittings unless the water main has nitrile gaskets specified.

The cost for all fittings, excluding that incidental to the hydrant and tapping sleeve installations, will be paid at the contract unit price per POUND for DUCTILE IRON FITTINGS AND ACCESSORIES.

No additional compensation will be given for the weight of the accessories.

### **MECHANICAL JOINT RESTRAINTS FOR WATER MAIN**

All mechanical joint restraints shall be incorporated in the design of a follower gland. The gland shall be manufactured of ductile iron conforming to ASTM A 536. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to AWWA C111 and C153.

The restraint mechanism shall consist of numerous individually activated gripping surfaces to maximize restraint capability. The gripping surfaces shall be sedges designed to spread the bearing surfaces on the pipe. Twist-off nuts, sized same as tee-head bolts, shall be used to insure proper actuating of restraining devices. When the nut is sheared off, a standard hex nut shall remain. The mechanical joint restraint device for ductile iron pipe shall have a working pressure of at least 250 psi with a minimum safety factor of 2. Gasket material identical to that described above shall be utilized at all joints and fittings.

The mechanical joint restraint devices shall be EBAA Iron, Inc. MegaLug 1100 series, Uni-Flange Series 1400, or engineer-approved equal.

All design associated with mechanical joint restraints shall be completed by the Contractor and his supplier. The cost for designing, furnishing, installing, adjusting, and testing of mechanical joint restraints will not be compensated for separately but shall be considered included in the cost of the water main.

### **STAINLESS STEEL WATER MAIN T-HEAD BOLTS AND NUTS**

Stainless steel T-head bolts and nuts shall be series S30400 AISI 304 meeting ASTM A193. To prevent galling the entire surface of the bolt shall be spray coated with burgundy colored 1010 Xylan as manufactured by Whitford Worldwide or approved equal. The cost for all stainless steel bolts and nuts shall be considered included in the cost of applicable contract items.

## **VALVES**

All valves smaller than 12" shall be Mueller A2360-20, or approved equal modified wedge disc, resilient seat type with non-rising stem and o-ring packing designed for 200 pound working pressure gate valves abiding to AWWA C509 (AWWA Standard for Resilient-Seated Gate Valves for Water Supply Service) and AWWA C550 (AWWA Standard for Protective Interior Coatings for Valves and Hydrants).

All valves 12" and larger shall be butterfly valves Mueller 3211-20 or approved equal. All valves shall open counter clockwise with non-rising stem (except hand valves). All valves shall conform to AWWA C504 (AWWA Standard for Rubber-Seated Butterfly Valves) and approved by the Engineer. The cost for each valve shall be included in the appropriate valve vault, valve box or tapping sleeve unit price.

## **VALVE VAULT WITH VALVE**

Valve vaults shall be installed at the locations indicated in the plans or as directed by the Engineer. Valves shall be centered directly under the vault lid opening unless otherwise approved by the Engineer. Valve vault construction shall be as shown on the detail drawings in the plans. Valve vaults shall conform to ASTM C478. For valves up to and including 8 inches in diameter, valve vaults shall have a forty-eight (48) inch inside diameter; for pressure connections and valves larger than 10 inches in to 12 in diameter, valve vaults shall have a sixty (60) inch inside diameter and valves larger than 12 inches shall have a 72 inch diameter vault unless otherwise specified in the plans.

No more than two (2) adjusting rings with eight (8) inch maximum height adjustment shall be allowed. Rubber adjusting rings instead of concrete adjusting rings are required for all valve vaults. All joints between vaults sections shall be sealed with mastic and McWrap or equal shall be used around the outside wall of the vault at the joints.

All vaults shall be provided with a heavy duty Type 1 frame and closed lid. The manhole frame and cover shall be an East Jordan 1022Z3 embossed "BRIDGEVIEW" "WATER" or an approved equivalent.

Basis of Payment: The cost for furnishing all labor, materials, valves and equipment necessary for excavation, and, backfilling will be paid for at the contract unit price of EACH for VALVE VAULT, [SPECIFIED SIZE]-DIAMETER, WITH [SPECIFIED SIZE] VALVE.

## **TAPPING SLEEVE AND VALVE IN VALVE VAULT WITH TYPE 1 FRAME, CLOSED LID**

Valve vaults shall be installed at the locations indicated in the plans or as directed by the Engineer. Valves shall be centered directly under the vault lid opening unless otherwise approved by the Engineer. Valve vault construction shall be as shown on the detail drawings in the plans. Valve vaults shall conform to ASTM C478. For valves up to and including 8 inches in diameter, valve

vaults shall have a forty-eight (48) inch inside diameter; for pressure connections and valves larger than 10 inches in to 12 in diameter, valve vaults shall have a sixty (60) inch inside diameter and valves larger than 12 inches shall have a 72 inch diameter vault unless otherwise specified in the plans.

No more than two (2) adjusting rings with eight (8) inch maximum height adjustment shall be allowed. Rubber adjusting rings instead of concrete adjusting rings are required for all valve vaults. All joints between vaults sections shall be sealed with mastic and McWrap or equal shall be used around the outside wall of the vault at the joints.

All vaults shall be provided with a heavy duty Type 1 frame and closed lid. The manhole frame and cover shall be an East Jordan 1022Z3 embossed "BRIDGEVIEW" "WATER" or an approved equivalent.

Basis of Payment: The cost for furnishing all labor, materials, valves and equipment necessary for excavation, and, backfilling will be paid for at the contract unit price of Each for [SPECIFIED SIZE] TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, [SPECIFIED SIZE]-DIAMETER, TYPE 1 FRAME, CLOSED LID.

#### **TAPPING SLEEVE AND VALVE IN VALVE VAULT WITH SOLID FLAT TOP SLAB**

Valve vaults shall be installed at the locations indicated in the plans or as directed by the Engineer. Valves shall be centered directly under the vault lid opening unless otherwise approved by the Engineer. Valve vault construction shall be as shown on the detail drawings in the plans. Valve vaults shall conform to ASTM C478. For valves up to and including 8 inches in diameter, valve vaults shall have a forty-eight (48) inch inside diameter; for pressure connections and valves larger than 10 inches in to 12 in diameter, valve vaults shall have a sixty (60) inch inside diameter and valves larger then 12 inches shall have a 72 inch diameter vault unless otherwise specified in the plans.

No more than two (2) adjusting rings with eight (8) inch maximum height adjustment shall be allowed. Rubber adjusting rings instead of concrete adjusting rings are required for all valve vaults and precast rings are not allowed. All joints between vaults sections shall be sealed with mastic and McWrap or equal shall be used around the outside wall of the vault at the joints.

The top of the precast valve vault shall be topped with a solid flat top slab as detailed in the plans.

Basis of Payment: The cost for furnishing all labor, materials, valves and equipment necessary for excavation, and, backfilling will be paid for at the contract unit price of Each for [SPECIFIED SIZE] TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, [SPECIFIED SIZE]-DIAMETER, SOLID FLAT TOP SLAB.

### **16"X8" REDUCING TAPPING SLEEVE AND 8" DIA. GATE VALVE IN 6 FT-DIA. VALVE VAULT, TYPE 1 FRAME, CLOSED LID**

Valve vaults shall be installed at the locations indicated in the plans or as directed by the Engineer. Valves shall be centered directly under the vault lid opening unless otherwise approved by the Engineer. Valve vault construction shall be as shown on the detail drawings in the plans. Valve vaults shall conform to ASTM C478.

No more than two (2) adjusting rings with eight (8) inch maximum height adjustment shall be allowed. Rubber adjusting rings instead of concrete adjusting rings are required for all valve vaults and precast rings are not allowed. All joints between vaults sections shall be sealed with mastic and McWrap or approved equal shall be used around the outside wall of the vault at the joints.

All vaults shall be provided with a heavy duty Type 1 frame and closed lid. The manhole frame and cover shall be an East Jordan 1022Z3 embossed "BRIDGEVIEW" "WATER" or an approved equivalent.

Basis of Payment: The cost for furnishing all labor, materials, valves and equipment necessary for excavation, and, backfilling will be paid for at the contract unit price of Each for 16"X8" REDUCING TAPPING SLEEVE AND 8" DIA. GATE VALVE IN 6 FT-DIA. VALVE VAULT, TYPE 1 FRAME, CLOSED LID.

### **FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX**

This work shall consist of the installation of new hydrants, auxiliary valves, valve boxes, tees and associated pipe and fittings at the locations indicated in the plans or as directed by the Engineer. All castings shall be made in the U.S.A. with U.S.A. materials. Fire hydrants shall meet AWWA C-502 and shall be Mueller "Centurion" A-423, East Jordan "Water Master" 5BR250, or approved equal with a 5-1/4" valve opening, two 2-1/2" hose nozzles and one 4-1/2" pumper nozzle. Threads shall conform to national standard specifications. Hydrants shall be approved by the Engineer.

Hydrants shall be installed no closer than three feet nor farther than 8 feet from the back of curb. No hydrant shall be installed within 48" of any obstruction nor shall any obstruction be placed within 48" of a hydrant. The cost for pipe, if any, needed for offsetting the hydrant from the water main shall be incidental to the hydrant construction.

The hydrants shall be painted red by the manufacturer. The cost for this work will be paid for at the contract unit price bid per EACH for FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX.

## **WATER MAIN SHUT DOWN**

The contractor will not be allowed to shut down existing water mains until the Village of Bridgeview Public Works Director Bill Cronch has been notified at (708) 594-2525 and grants approval.

## **PRESSURE TEST OF WATER MAIN**

The water main shall be pressure tested at 150 psi with zero loss for a period not less than 2 hours. This work will not be paid for separately but shall be considered included in the cost of the water main.

## **CHLORINATION OF WATER MAIN**

The water main shall be chlorinated in accordance with AWWA and IEPA standards. Samples shall be collected and sent to the IEPA laboratory used by the Village of Bridgeview. This work including the laboratory fees will not be paid for separately but shall be considered included in the cost of the water main.

## **EXPLORATION TRENCH, SPECIAL**

This work shall consist of the exploratory digging at various locations as directed by the Engineer for the purpose of identifying the depths or locations of existing underground utilities within the construction limits of the project. For this contract, the words "underground utilities" shall be extended to include water services, storm and sanitary sewers, gas lines, IBT cable and ductworks and other utilities not listed here.

Areas shall be backfilled with excavated materials in accordance with Section 213, Section 212 and Article 202.03 of the Standard Specifications. Any damages to utilities that occur during exploration trenching shall be repaired or replaced at no cost to the contract.

Basis of Payment: All work will be paid for at the contract unit price per FOOT of EXPLORATION TRENCH, SPECIAL which price shall be full compensation for all equipment, labor and materials need to backfill the trench and replacement of broken "underground utilities", regardless of the depth that the trench is excavated to. Contractor shall notify J.U.L.I.E. at least 48 hours before start of trenching operation.

## **WATER USE**

The Contractor desiring to use water from municipal hydrants will be required to make an application to Village of Bridgeview Public Works Director Bill Cronch at (708) 594-2525, and if the

request is granted, shall conform with the ordinances of the municipality, as well as with the rules and regulations of the Water Department, and will be held responsible for all damages to hydrants and water pipe used for the purposes of securing water. Pipe wrenches approved by the Water Department shall be utilized for opening and closing hydrants and other appurtenances.

When additional water from fire hydrants is necessary to avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed in case of a fire in the area served by the hydrant.

The Owner wishes to keep accurate records of the amount of water used for the construction purposes. The Contractor shall use an approved water meter to record usage, and shall report the total water used to the Water Superintendent at the end of each working day. The Contractor will be responsible for the cost of the water billed at the normal residential rate.

### **REMOVE EXISTING VALVE AND VAULT**

The Contractor shall remove the existing valve and meter vault at the PepsiCO facility after the proposed meter, valves, service lines, and vault have been installed, inspected, chlorinated, tested, and approved by the Village of Bridgeview and the Engineer. The contractor shall contact Village of Bridgeview Public Works Director Bill Cronch at (708) 594-2525 for the location to deliver the existing meters. This work shall be paid for at the contract unit price per EACH for REMOVE EXISTING VALVE AND VAULT of the preferred Public Works yard.

### **CUT AND CAP**

The Contractor shall install the water main as shown on the plans and completely flush and chlorinate said main. The Contractor shall then be required to disconnect the water services from the old main and reconnect to the new main. This reconnection of services shall not be accomplished until a satisfactory chlorination report is received on the new main in that area.

The cutting and capping of the existing 16" water main will be paid for at CUT AND CAP EXISTING WATER MAIN. All other sizes of water main will be paid for with this pay item.

After all water services have been reinstated, the contractor shall abandon the existing water main by installing caps at the locations indicated in the plans or as directed by the Engineer, assisted by the Water Department, performing appropriate valve closings as necessary. The cost for all excavation, backfilling, and any caps or plugs installed will be paid for at the contract unit price bid per EACH for CUT AND CAP EXISTING [SPECIFIED SIZE] WATER MAIN.

### **CUT AND CAP EXISTING WATER MAIN**

This work shall consist of cutting and capping the 16-inch water main. The Contractor shall install the water main as shown on the plans and completely flush and chlorinate said main. The Contractor shall then be required to disconnect the water services from the old main and reconnect

to the new main. This reconnection of services shall not be accomplished until a satisfactory chlorination report is received on the new main in that area.

After all water services have been reinstated, the contractor shall abandon the existing water main by installing caps at the locations indicated in the plans or as directed by the Engineer, assisted by the Water Department, performing appropriate valve closings as necessary. The cost for all excavation, backfilling, and any caps or plugs installed will be paid for at the contract unit price bid per EACH for CUT AND CAP EXISTING WATER MAIN.

### **WATER MAIN REMOVAL**

The Contractor shall remove water main at the locations indicated on the plans.

Basis of Payment: This work, including the removal of the water main, disposal of the pipe and the associated trench backfill needed to bring the trench up the appropriate grade before restoration shall be paid for at the contract unit price bid per FOOT for WATER MAIN REMOVAL [SPECIFIED SIZE].

### **WATER METER VAULT**

This item shall include the installation of a 16 inch x 8 inch tee and all associated 6 inch and 8 inch piping, fittings and associated appurtenances inside a 72 inch valve vault in order to provide PepsiCo with both domestic water and fire protection service. Both the 8 inch and 6 inch sections of piping shall be equipped with gate valves. The 6 inch section of piping shall be equipped with a water meter as approved by the Village of Bridgeview. It shall be the Contractor's responsibility to contact Bridgeview for the type and cost of the water meter and the cost of the water meter shall be included in the cost for this pay item.

Once the public watermain has been installed and this meter vault and piping connected, pressure tested and chlorinated with satisfactory results, the Contractor shall connect this new metering vault piping to the existing water service lines into the building. That work shall be paid for under the separate pay item ADJUSTING WATER SERVICE LINES. That work will have to be done with an 8 hour timeframe during off-peak hours (nighttime) when PepsiCO is not in production.

### **ADJUSTING WATER SERVICE LINES**

In addition to meeting the requirements of Section 563 of the Standard Specifications, this item shall also include adjusting the existing water services lines to the PepsiCO building required to meet the proposed grade of the new piping from the water metering vault. This work will have to be done with an 8 hour timeframe during off-peak hours (nighttime) when PepsiCO is not in production. Measurement shall be made along the centerline of water main adjusted. The cost for furnishing all labor, materials and equipment necessary for adjusting the existing water services will be paid for at the contract unit price per FOOT for ADJUSTING WATER SERVICE LINES.

## **FIRE HYDRANT TO BE REMOVED**

The Contractor shall remove fire hydrants at the locations indicated on the plans. The auxiliary valve shall be cut 24 inches below the finished grade and filled with sand.

Basis of Payment: This work, including the removal of the fire hydrant, delivery of the fire hydrant to Bridgeview Public works shall be paid for at the contract unit price bid per EACH for FIRE HYDRANT TO BE REMOVED. The contractor shall contact Village of Bridgeview Public Works Director Bill Cronch at (708) 594-2525 for the location of the preferred Public Works yard.

## **WATER SERVICE LINE**

For lines 2 inches and smaller, this item shall include the installation of new type K copper pipe of the size indicated and all necessary appurtenances for connection to the new water main to the existing valve box at the property line.

For lines larger than 2 inches, this item shall include the installation of new Class 52 ductile iron water main of the size indicated wrapped in polyethylene encasement, Method B and all necessary appurtenances for connection to the new water main to the existing valve box at the property line.

Basis of Payment: This work will be paid for at the contract price per FOOT of WATER SERVICE LINE of the size specified.

## **STEEL SLEEVE- OPEN CUT**

This work shall consist of furnishing spiral welded, steel casing of the thickness listed in the table below and of the outer diameter specified on the plans or as directed by the Engineer. The sleeve shall meet ASTM A139 and ANSI/AWWA C200, Grade B, minimum yield strength of 35,000 psi. Sleeves shall extend at least ten feet (10') beyond the outer edge of the existing pavement or sewer pipe, as indicated in the detail drawings, unless otherwise approved by the Engineer. All work shall be done in accordance with Section 550 of the Standard Specifications.

After installation of the steel sleeve is completed, the proposed water main shall be constructed in place within the sleeve. The water main shall be inserted and centered by use of model CCS stainless steel casing spacers as manufactured by Cascade Waterworks Mfg. Co. of Yorkville, IL or approved equal at a maximum spacing of 10 feet. Casing spacers shall be bolt on style with a two-piece shell made from T-304 stainless steel of a minimum 14-gauge thickness. Each shell section shall have bolt flanges formed with ribs for added strength. Each connecting flange shall have a minimum of three 5/16" T-304 bolts. The shell shall be lined with a ribbed PVC extrusion with a retaining section that overlaps the edge of the shell and prevents slippage. Bearing surfaces (runners) made from UHMW polymer with a static coefficient of friction of 0.11-0.13 shall be attached to support structures (risers) at appropriate positions to properly support the carrier within the casing and to ease installation. The runners shall be attached mechanically by T-304 threaded fasteners inserted through the punched riser section and TIG welded for strength. Risers shall be made of T-304 14 gauge stainless steel. All risers over two inches (2") in height shall be

reinforced. Risers shall be MIG welded to the shell. All metal surfaces shall be fully passivated. The ends of the sleeve shall be sealed using a method approved by the Engineer.

The cost for casing spacers, filling of the annular space (if required), and furnishing and installing the steel sleeve shall be included in the contract unit price for the steel sleeve. Unless otherwise shown on the plans, steel sleeves [casings] shall be of the size and thickness shown in the table below:

DS 1 Standard Sizes of Steel Sleeves Used As Casings\*

Carrier Pipe ID in Inches	Casing Wall Thickness in Inches	Casing Outside Diameter in Inches
16	0.469	30

\*Adapted from City of Chicago, IL Water Department Standard Specifications

The cost of furnishing and installation of the steel sleeve, and all incidental work necessary for its installation, including casing spacers, will be paid for at the contract unit price per FOOT for [SPECIFIED SIZE] DIAMETER STEEL SLEEVE, [SPECIFIED SIZE] WALL THICKNESS, OPEN CUT. The cost for water main constructed within the sleeves will be paid for at its own unit price.

### STEEL SLEEVES-AUGURED

The Contractor is advised to review the site and familiarize himself with the soil conditions prior to finalizing his bid for this portion of the work. No additional compensation shall be allowed for changes in the construction method due to ground conditions that may exist at the time of construction. All work shall be performed in accordance with Section 552 of the Standard Specification and CSX Design and Construction Standards and Specifications except as described in the following specifications and the Steel Sleeve Specification contained herein.

This work shall consist of auguring a steel sleeve at the location and at the line and grades provided on the plans or as where directed by the Engineer. The Contractor shall field verify the elevations and locations of any and all utilities that may cross beneath or over the proposed augur prior to ordering structures [manholes] or beginning the augur operation so as to not damage the existing utilities during augur operations. No additional compensation shall be given for any modifications required to be made to the proposed water transmission line design (including but not limited to re-ordering/restocking structures) or for any delay time incurred due to a difference in assumed and actual elevations of the existing utilities.

The Contractor shall take all necessary precautions to prevent the undermining of the railroad tracks, roadways, structures, embankments, or property including the utilization of trench boxes, sheeting, etc. to properly maintain the augur and receiving pit excavations such that underlying soils between the pavement edge etc. and augur limits are prevented from entering the excavation. In the event that settlement or any other damage occurs to adjacent roadways railroad tracks, and property or structures between the time the auguring is completed and the end of the contract bond guaranty period, the Contractor shall be fully responsible for any repairs deemed necessary by the Engineer.

This work shall consist of the construction of thirty (30") diameter steel sleeves (casing pipe) at the locations indicated in the contract drawings or as directed by the Engineer. The minimum thickness of the steel sleeves shall be .469 inches. All casing pipe shall be smooth, Grade B welded steel pipe meeting the requirements of ASTM A139 and ANSI/AWWA C200, minimum yield strength of 35,000 psi. For roadway crossings, sleeves shall extend at least ten feet (10') beyond the outer edge of the existing pavement or sewer pipe, as indicated in the detail drawings, unless otherwise approved by the Engineer.

After installation of the steel sleeve is completed, the proposed water main shall be constructed in place within the sleeve. The water main shall be inserted and centered by use of model CCS stainless steel casing spacers as manufactured by Cascade Waterworks Mfg. Co. of Yorkville, IL or approved equal.

Caser spacing shall be bolt on style with a two-piece shell made from T-304 stainless steel of a minimum 14-gauge thickness. Each shell section shall have bolt flanges formed with ribs for added strength. Each connecting flange shall have a minimum of three (3) five-sixteenths inch (5/16") T-304 bolts. The shell shall be lined with a ribbed PVC extrusion with a retaining section that overlaps the edge of the shell and prevents slippage. Bearing surfaces (runners) made from UHMW polymer with a static coefficient of friction of 0.11-0.13 shall be attached to support structures (risers) at appropriate positions to properly support the carrier within the casing and to ease installation. The runners shall be attached mechanically by T-304 threaded fasteners inserted through the punched riser section and TIG welded for strength. Risers shall be made of T-304 14-gauge stainless steel. All risers over two inches (2") in height shall be reinforced. Risers shall be MIG welded to the shell. All metal surfaces shall be fully passivated.

The cost for excavating, shoring and backfilling of the jacking pit and receiving pit including dewatering (if necessary) and stabilization, and installing the steel sleeve shall be considered included in the contract unit price for the steel sleeve augur.

The cost of furnishing and installation of the steel sleeve, and all incidental work necessary for its installation, including casing spacers, will be paid for at the contract unit price bid per FOOT for [SPECIFIED SIZE] DIAMETER STEEL SLEEVE, [SPECIFIED SIZE] WALL THICKNESS, AUGURED. The cost for water main constructed within the sleeves will be paid for at its own unit price.

## **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.

### **STORM SEWER JACKED IN PLACE, (SPECIAL)**

This work shall consist of the installation of an Eighty-Four (84") inch diameter storm sewer at the location indicated in the contract drawings as described below or as directed by the Engineer.

The Contractor is advised to review the site and familiarize himself with the soil conditions prior to finalizing his bid for this portion of the work. No additional compensation shall be allowed for changes in the construction method due to ground conditions that may exist at the time of construction. All work shall be performed in accordance with Section 552 of the Standard Specifications and CSX Design and Construction Standards and Specifications except as described in the following specifications.

This work shall consist of jacking a storm sewer pipe at the location and at the line and grades provided on the plans or as where directed by the Engineer. The Contractor shall field verify the elevations and locations of any and all utilities that may cross beneath or over the proposed lacking elevation prior to ordering structures [manholes] or beginning the jacking operation so as to not damage the existing utilities during jacking operations. No additional compensation shall be given for any modifications required to be made to the proposed storm sewer line design (including but not limited to re-ordering/restocking structures) or for any delay time incurred due to a difference in assumed and actual elevations of the existing utilities.

The Contractor shall take all necessary precautions to prevent the undermining of the railroad tracks, roadways, structures, embankments, or property including the utilization of trench boxes, sheeting, etc. to properly maintain the launching and receiving pit excavations such that underlying soils between the pavement edge etc. and jacking limits are prevented from entering the excavation. In the event that settlement or any other damage occurs to adjacent roadways railroad tracks, and property or structures between the time the jacking is completed and the end of the contract bond guaranty period, the Contractor shall be fully responsible for any repairs deemed necessary by the Engineer.

When 10 ft separation is not maintained between the water main and the 84" RCP the joints of the RCP pipe will be sealed with Tylox, Type C gasket or an approved equivalent conforming to ASTM C443 and C361. This work will not be paid for separately but included in the cost of STORM SEWER JACKED IN PLACE, of the diameter specified (SPECIAL).

The cost for excavating, shoring and backfilling of the jacking pit and receiving pit including dewatering (if necessary), gaskets and stabilization shall be considered included in the cost for the STORM SEWER JACKED IN PLACE, of the diameter specified (SPECIAL).

The cost of furnishing and the installation of the storm sewer, and all incidental work necessary for its installation will be paid for at the contract unit price bid per FOOT for STORM SEWER JACKED IN PLACE, of the diameter specified (SPECIAL).

### **JACKING PIT / RECEIVING PIT**

This work shall consist of excavation of the pits to allow auguring/jacking of the steel casing or storm sewer according to Section 552 of the Standard Specifications and as specified below.

#### Support of Excavation of Jacking and Receiving Pits

The contractor will need to provide shop drawings for the support and bracing sealed by a professional engineer for the jacking and receiving pit to both the Village and the CSXT. The Contractor must receive approval from both the Village and CSXT's Chief Engineer, Design and Construction prior to beginning any work on 71st Street or which may affect CSXT property. The Contractor must receive approval from the Engineer prior to beginning work which may affect access to the east or north dock areas at the Signode facility west of the tracks. Access to the dock areas must be maintained throughout the project.

If sheeting is used it shall be designed to support all lateral forces caused by the earth, railroad and other surcharge loads. The design shall be according to CSXT regulations.

After construction and backfilling, all sheet piling within 10 feet of the centerline of the track must be cut off 20 inches below final grade and left in place.

All excavated areas are to be illuminated with flashing warning lights and shall be fenced throughout the time the pits are excavated.

This work shall be incidental to the steel sleeve and storm sewers jacked in place unit prices. The pits shall be backfilled with trench backfill in accordance with 1004.03 of the Standard Specifications.

The cost for preparing shop drawings, furnishing, placing, removing, filling, protecting the pits, and disposing of excess aggregate will not be compensated for separately but shall be considered included in the cost for the STORM SEWER JACKED IN PLACE, of the diameter specified (SPECIAL), or the 30" STEEL SLEEVE, 0.469" WALL THICKNESS-AUGURED.

## **FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)**

Effective: August 1, 1995

Revised: August 25, 2010

Add the following to Article 603.03 of the Standard Specifications:

"The contractor shall adjust the structures to the finished pavement elevation no more than 5 calendar days prior to placement of the final lift of surface unless approved by the Engineer."

Add the following to Article 603.09 of the Standard Specifications:

"Removing frames and lids on drainage and utility structures in the pavement prior to milling, and adjusting to final grade prior to placing the surface course, will be paid for at the contract unit price each for FRAMES AND LIDS TO BE ADJUSTED (SPECIAL).

This work will not be paid for when drainage and utility structures are specified for payment as structure reconstruction."

## **VALVE IN VALVE BOX**

Valve boxes shall be installed at the locations indicated in the plans or as directed by the Engineer. Valves shall be centered directly under the box opening unless otherwise approved by the Engineer. Screw type adjustments for depth will be allowed and valve box stabilizing devices are required. Valve boxes shall be East Jordan Iron Works or approved equal.

Measurement for payment shall be per EACH for size specified VALVE IN VALVE BOX installed.

## **PLANTING WOODY PLANTS**

Effective: January 1, 2008

Revised: October 30, 2008

This work shall consist of planting woody plants as specified in Section 253 of the Standard Specifications with the following revisions:

Delete the third sentence of Article 253.07 and substitute the following:

The Contractor shall place the marking flags, clearly labeled with the common name, for each individual parkway tree and outline each area for mass or solid planting. The Engineer will contact the Roadside Development Unit at (847) 705-4171, at least 72 hours prior to any digging to verify the layout.

Delete the fourth paragraphs of Article 253.10 and substitute the following:

Trees, shrubs, and vines shall be thoroughly watered with a method approved by the Engineer. Place backfill in 6 inch-thick layers. Work each layer by hand to compact backfill and eliminate voids. Maintain plumb during backfilling. When backfill is approximately 2/3 complete, saturate backfill with water and repeat until no more water can be absorbed. Place and compact remainder of backfill and thoroughly water again. Approved watering equipment shall be at the site of the work and in operational condition PRIOR TO STARTING the planting operation and DURING all planting operations OR PLANTING WILL NOT BE ALLOWED.

Add the following to Article 253.10(e):

Spade a planting bed edge at approximately a 45 degree angle and to a depth of approximately 3-inches (75 mm) around the perimeter of the tree bed. Remove any debris created in the spade edging process and disposed of as specified in Article 202.03.

Delete Article 253.11 and substitute the following:

Within 48 hours after planting, mulch shall be placed around all plants in the entire mulched bed or saucer area specified to a depth of 4 inches (100 mm). No weed barrier fabric will be required for tree and shrub planting. Pre-emergent Herbicide will be used instead of weed barrier fabric. The Pre-emergent Herbicide shall be applied prior to mulching. See specification for Weed Control, Pre-Emergent Granular Herbicide. Mulch shall not be in contact with the base of the trunk.

Delete Article 253.12 and substitute the following:

Any paper or cardboard trunk wrap must be removed before placing the tree in the tree hole in order to inspect the condition of the trunks. "A layer of commercial screen wire mesh shall be wrapped around the trunk of all deciduous trees. All other plants planted individually shall be similarly wrapped when directed by the Engineer. The screen wire shall be secured to itself with staples or single wire strands tied to the mesh. Trees shall be wrapped at time of planting, before the installation of mulch. The lower edge of the screen wire shall be in continuous contact with the ground and shall extend up to the lowest major branch.

Add the following to Article 253.13 Bracing:

Trees required to be braced shall be braced within 24 hours of planting.

Method of Measurement. Trees and shrubs will be measured for payment in place as individual plants. Only acceptable plants will be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per EACH for several kinds and sizes of TREES and SHRUBS to include the furnishing and installing of trees and shrubs and all herbicide, fertilizer and other incidentals outline in this specification.

## **SHREDDED BARK MULCH**

This work shall consist of furnishing and installing mulch around trees, plants and perennials. All work shall be performed in accordance with applicable portions of Section 254 of the Standard Specifications. The mulch shall consist of a shredded hardwood, free of deleterious materials and suitable as a top dressing for trees and shrubs. The mulch shall be placed at a minimum thickness of three inches. The Contractor shall take care not to damage any trees, shrubs or plants being mulched and shall place mulch as shown on the details of the plans. Mulch shall not be placed directly in contact with the trunk of any tree, shrub or plant.

Basis of Payment: This work shall be measured in horizontal area computed in square yards and paid for at the contract unit price bid per square yard for SHREDDED BARK MULCH of the thickness noted.

## **RAILROAD CROSSING**

Description: This item consists of furnishing and installing a railroad roadway grade crossing to the lines and grades shown on the plans and herein specified.

Related Work Specified Elsewhere:

1. Hot Mix Asphalt Paving

Quality Assurance:

The following codes, Regulations, Reference Standards, and Specifications apply to work included in this section:

1. AREMA: "Manual for Railway Engineering".
2. Codes and regulations of the jurisdictional authorities and the CSXT Railroad, including the most current version of the CSXT Standard Specifications for the Design and Construction of Private Sidetracks.
3. CSXT "Light Duty Road Crossing Asphalt and Rubber Interface on Wood Ties" standard drawing dated June 1, 2007. Reference drawing is attached to these special provisions.

Submittals:

Shop Drawings: Within 15 calendar days after receipt of the Notice to Proceed, submit the type of crossing system and the manufacturer's literature including drawings and a detailed installation specification.

Working Drawings: Include detailed information concerning any modifications necessary to the standard ballasted track configuration. Such modifications may include, but are not limited to, crosstie spacing.

Certification: Certification of compliance with all requirements as specified herein.

### Grade Crossings, General:

All materials necessary for the completion of the work described in this section shall be in complete accordance with the Standard Specifications and the additional codes, Regulations, Reference Standards, and Specifications listed under Quality Assurance. Provide all associated hardware required for installation.

### Installation:

Construct grade crossings to the lines and grades indicated and in accordance with the requirements of the CSXT Standard Specifications for the Design and Construction of Private Sidetracks and the CSXT "Light Duty Road Crossing Asphalt and Rubber Interface on Wood Ties" standard drawing dated June 1, 2007 except as modified herein.

Verify that crossties are of correct length, position, and spacing to satisfy the requirements of the grade crossing panels and fasteners. Correct any deficiencies prior to proceeding with grade crossing installation. Re-space or replace ties, as necessary, to provide ties at the locations and spacing required for proper installation.

Install the crossing materials in accordance with the manufacturer's instructions and the approved installation procedure. Use only fasteners that have been approved by the Railroad.

1. Respace or replace ties, as necessary, to provide ties at the locations and spacing required by the crossing manufacturer.

Construct asphalt concrete to the depths shown and in accordance with the requirements of the Standards Specification or modified herein.

1. Place hot-mix asphalt in accordance with the Standard Specifications.

Completion: Highway and street crossings shall be completed in their entirety, including grading, planking, and/or paving in exact accordance with the plans and specifications. Care shall be taken to insure the least possible interference with vehicular traffic.

Method of Measurement: This Work will be measured for payment on a Lump Sum basis including all crossing materials, filler materials, rubber interface, asphalt concrete paving, clamps, holding spikes, and incidentals.

Basis of Payment: This Work will be paid for at the Contract Lump Sum Price for RAILROAD CROSSING complete-in-place. Such price shall include all labor, material, equipment required, and incidentals necessary to complete the work as herein specified.

## **CONSTRUCTION OF JUMP SPANS**

Description: This work shall consist of designing, furnishing material, erecting, maintaining and removing temporary jump span including furnishing, adjustment and erection of track work in accordance with CSXT standards. This jump span is required for the construction of a permanent bridge structure as shown on the drawings and specified in the contract documents. The work

shall be performed in accordance with current Standard Specifications for Road and Bridge Construction as modified herein and on the plans.

The work shall be inclusive of all items necessary for staged installation of the jump span system, maintaining the jump span during construction of the permanent bridge, and staged removal of the jump span as the permanent bridge is erected. These items include furnishing and erecting track work materials, structural members including sheeting and piling, earth excavation and disposal of excavated material and surveying.

All work shall be performed in accordance with CSXT (the Railroad) specifications and during allowable windows of operation described herein and as shall be required by the Railroad.

The drawings have indicated a conceptual method of temporary structure as an example of a feasible method. The Contractor shall be responsible for the design and detailing of the temporary structure.

The design shall be in accordance with AREMA specifications and shall be designed and sealed by a structural engineer registered and active in Illinois. Prior to construction, the design shall be submitted in detail to the Railroad, the Engineer and IDOT for approval of the method. Any approval shall not relieve the contractor of responsibility for adequacy and performance of the system.

Related Special Provisions:

GBSP32	TEMPORARY SHEET PILING
GBSP42	DRILLED SOLDIER PILE RETAINING WALL
GBSP43	DRIVEN SOLDIER PILE RETAINING WALL
GBSP44	TEMPORARY SOIL RETENTION SYSTEM
GBSP68	PILING
GBSP70	BRACED EXCAVATION

The provisions contained in the items indicated above apply to the Work under this item but will not be measured for payment for any work pertaining to the construction of the temporary jump spans but will be included in the bid price for CONSTRUCTION OF JUMP SPANS.

Materials:

Structural Steel: All structural steel shall be carbon structural steel conforming to the requirements of ASTM A709 Grade 50 unless otherwise specified herein or on the plans. The rail bridge beams and/or girders used shall conform to the Supplemental Requirements for Fracture Critical Members, zone 2. The drawings have indicated a conceptual method of temporary structure as an example of a feasible method. The Contractor shall be responsible for the design and detailing of the temporary structure.

Steel Sheet Piling: Steel Sheet Piling: Steel sheet piling shall conform to the requirements of AASHTO M 202. Sheet piles shall be designed to continuously interlock throughout their entire length with adjacent units.

Sheet Piling Accessories: Walers, rakers, splice plates and other structural steel including tie rods shall conform to AASHTO M270 Grade 250. Bolts, nuts and washers for splicing walers shall conform to AASHTO M164. All other bolts, nuts and washers shall conform to ASTM A307.

At the option of the Contractor, the materials may be new or used. If they are used, the materials shall be in good condition and acceptable to the Engineer.

All welding shall conform to the applicable requirements of Article 505.04(q) of the Standard Specifications.

Timber: Furnish and install all structural timber and hardware. The contractor shall provide all timber items complete, in place and as shown on the Plans and as required by design. All work shall conform to Section 507 of the Standard Specifications except as noted herein or on the plans. A complete material list shall be shown on the shop drawings indicating all timber, fastenings and hardware.

Timber for use in jump span construction shall be Douglas Fir, conforming to requirements of Select Structural. Bolts for timber fastenings shall conform to A307. Nails shall conform to Section 507.07 of the Standard Specifications.

Rail: All rail required for the temporary jump spans will be furnished by the CSXT. All remaining track work will be the responsibility of the Contractor and will be paid for as part of this item.

Construction Requirements:

Design: The contractor shall prepare detailed plans of the temporary jump span and all necessary temporary structures required to maintain railroad traffic during bridge construction. The contractor shall submit these plans along with supporting calculations to the State of Illinois, the Engineer and the Railroad. Plans and calculations shall be sealed by a Structural Engineer licensed in Illinois. All loadings shall conform to AREMA Specifications as well as CSXT Criteria for Railroad Bridges. Full loading on all four tracks should be used in the design.

The contractor shall submit a detailed erection procedure to the Railroad for approval. This plan shall include procedures for maintaining rail traffic during construction. When construction requires interruption of rail traffic, and estimate of time required will be shown in the procedure. This out-of-service time must be within the approved time frame of the Railroad's Division Manager.

Written approval of the design and procedures from the Railroad must be obtained before construction can proceed. Approval does not relieve the Contractor of responsibility for the safety of the jump span system.

Railroad Requirements: It is essential that the construction be performed safely and with minimum interference to rail operations. The Contractor should contact the Railroad Division manager during the jump span design period in order to determine Operational requirements.

Track outages for the jump span arrangement shown in the drawings have been estimated and discussed with CSXT. They are not approved outages, but are shown as an example of anticipated activities and associated outages for jump span construction:

Driving H-piles: It is anticipated that the support piles will be driven between trains with flag protection.

Driving Sheet Piling, Removal of Track, Excavation, and Placing Span and Replacement Track: Outages will be permitted as described in the "Schedule of Restrictions and Liquidated Damages" on pages 6-7.

The actual outages and associated Railroad activities including Force account work shall be determined with CSXT prior to approval of construction activities.

Monitoring: Contractor shall be responsible for monitoring performance of jump span system for the duration of use. Initial baseline survey shall be performed and monitored daily throughout the construction. Survey shall include alignment and vertical profile of track work, as well as structural retaining wall systems.

Excessive movement of greater than a half inch ( $\frac{1}{2}$ " ) horizontally or vertically of the system which may cause track misalignment will be cause to halt the work and take immediate steps to reinforce the system. The Contractor is responsible for obtaining the necessary materials and installing them as necessary to stabilize the system. The system shall be shored to the satisfaction of the CSXT, at the Contractor's expense.

Method of Measurement: This Work will be measured for payment on a Lump Sum basis.

Basis of Payment: This Work will be paid for at the Contract Lump Sum Price for CONSTRUCTION OF JUMP SPANS, which price will be payment in full for all materials, equipment, and labor necessary to complete the Work as herein specified. The Contractor is directed to not reflect the potential salvage value of the steel sheeting or soldier piles.

## **BALLAST DRAINS**

Description: This item shall consist of the furnishing and installing of deck drain half round corrugated steel pipes, bottom pans, end plates, outlet drops, reducer sections, galvanized pipe and pipe hangers as required for construction as shown on the Plans, as herein specified and as directed by the Engineer.

Material: The material shall conform to the requirements of ASTM A760. The holes in the half-round corrugated steel pipes and bottom pans shall be punched to the pattern shown on the Plans. All steel sections shall be given a two ounce galvanized protective coating after all fabrication has been completed. All parts of the drainage system shall be uniformly coated with asphalt, inside and outside as specified in AASHTO M 190 Type A. Holes in the pipe and bottom pans shall be blown open after continuing with asphalt.

Construction Requirements: The deck drains shall be set into a thick coat of hot asphalt to anchor them into place. The asphalt shall be mopped on the asphalt protection boards. The drains shall be carefully set to avoid gaps between sections.

Method of Measurement: Ballast Drains shall be measured in feet in place, from end to end of the half round corrugated steel drain pipe.

Basis of Payment: The work shall be paid for at the contract unit price per foot for BALLAST DRAINS, which price shall be payment in full for the system installed as herein specified and shown on the Plans.

## **PEDESTRIAN RAIL (SPECIAL)**

Description: This work shall consist of designing, furnishing material, and erecting of pedestrian aluminum railing at bridge as shown on the drawings. The work shall be performed in accordance with current Standard Specifications for Road and Bridge Construction Section 509, "Metal Railings", Article 1006.30 – Aluminum for Railings, Article 1006.31- Stainless Steel Hardware and as modified herein and on the Plans.

Structural Performance for Pedestrian Railing: Design, engineer, fabricate, and install the following metal fabrications to withstand the following structural loads without exceeding the allowable design working stress of the materials involved, including anchors and connections. Apply each load to produce the maximum stress in each respective component of each metal fabrication.

- (a) Top Rail of Guardrail Systems: Capable of withstanding the following loads applied as indicated unless local code is more stringent (comply with the most stringent requirement):

Concentrated load of 300 lbf applied at any point nonconcurrently, vertically downward, or horizontally.

Uniform load of 100 lbf per linear ft. applied nonconcurrently, vertically downward or horizontally.

Concentrated and uniform loads above need not be assumed to act concurrently.

- (b) Handrails Not Serving as Top Rails: Capable of withstanding the following loads applied as indicated unless local code is more stringent (comply with the most stringent requirement):

Concentrated load of 250 lbf applied at any point nonconcurrently, vertically downward or horizontally.

Uniform load of 50 lbf per linear foot applied nonconcurrently, vertically downward or horizontally.

Concentrated and uniform loads above need not be assumed to act concurrently.

- (c) Infill Area of Guardrail Systems: Capable of withstanding a horizontal concentrated load of 200 lbf applied to one sq. ft. at any point in the system including panels, intermediate rails balusters, or other elements composing the infill area unless local code is more stringent (comply with the most stringent requirement).

Above load need not be assumed to act concurrently with uniform horizontal loads on top rails of railing systems in determining stress on guard.

Safety and Accessibility Features: Engineer and fabricate stairs and railings to comply with requirements of local building codes, including headroom, handrail and guardrail locations, projection, height, baluster spacing.

(a) Accessibility Requirements: Furnish and install metal fabrications to comply with ADA "Accessibility Guidelines for Buildings and Facilities Code.

Aluminum Finish: Aluminum railing finish shall be Class I, clear anodized.

Method of Measurement: This work will be measured for payment in place in feet. The length measured will be overall length along the top longitudinal railing through all posts and gaps.

Basis of Payment: The work will be paid for at the contract unit price per foot for PEDESTRIAN RAIL (SPECIAL), which price will be payment in full for all materials, equipment, and labor necessary to complete the Work as herein specified.

#### **GUARD HOUSE REMOVAL AND REPLACEMENT**

This work shall consist of the removal of the existing guard house, the furnishing and the installation of a Temporary Guard House at the location indicated in the contract drawings, and the furnishing and the installation of a Guard House at the location indicated in the contract drawings for use at the PepsiCo facility. A total of one (1) relocation of the temporary guard house within the PepsiCo property is included in the Work to be performed for this item.

The prefabricated building for the guard house shall be furnished and installed on a concrete foundation. The prefabricated building for the temporary guard house shall be furnished and installed on a concrete foundation slab. The buildings shall be manufactured by Metropolitan Industries or an approved equal. The buildings shall have a UL classification QRNZ for Industrial and Commercial Prefabricated Buildings.

The Contractor is advised to review the site and familiarize himself with the soil conditions prior to finalizing his bid for this portion of the work. No additional compensation shall be allowed for changes in the construction method due to ground conditions that may exist at the time of construction.

Note: The requirements of this special provision are subject to change pending additional input and clarifications from PepsiCo.

#### Related Special Provisions:

BDE 5053I BUILDING REMOVAL - CASE IV (NO ASBESTOS) (BDE)

The provisions contained in the item indicated above apply to the Work under this item but will not be measured for payment for any work pertaining to the removal of the existing guard house but will be included in the bid price for GUARD HOUSE REMOVAL AND REPLACEMENT.

Reference Standards. The buildings shall conform to the following standards:

1. ACI-318-02, "Building Code Requirements for Reinforced Concrete". Concrete Reinforcing Institute, "Manual of Standard Practice".
2. ANSI/ASCE-7-02 "Building Code Requirement for Minimum Design Loads in Buildings and Other Structures".
3. IBC 2003, 1996 BOCA
4. Concrete Reinforcing Institute, "Manual of Standard Practice".
5. UL-752 test method level 4 for bullet resistance certified by an independent structural engineer.
6. Fabricator must be a certified producer under the National Precast Concrete Association's (NPCA) quality control certification program.

Design Standards. The building design shall meet the following design requirements:

1. Seismic load performance category 'C'. Exposure Group III
2. Standard Live Roof Load – 60 PSF
3. Standard Floor Load – 250 PSF
4. Standard Wind Loading – 130 MPH
5. Ceiling, floor, and wall panels must each be produced as single component monolithic panels. No roof, floor, or vertical wall joints will be allowed, except at corners. Wall panels shall be set on top of floor panel.

#### SUBMITTALS

Shop Drawings: Submit shop drawings for the approval of the Engineer. Drawings must indicate length, width and height; type of construction, foundation, interior finishes, size of HVAC unit, lighting, floor plan, fenestration, doors and all component hardware. Drawings must also include and detail the proposed underground utility service connections for the guard house and the temporary utility service connections for the temporary guard house.

The prefabricated buildings supplier shall submit sufficient data to enable approval to be given. As a minimum: Design drawings and structural stamped calculations to meet local code and conditions, applicable certifications, catalog information, and color samples showing equal range of variety.

#### MATERIALS

Guard House:

1. Concrete: Steel-reinforced, 5000 PSI minimum 28-day compressive strength, air-entrained (ASTM C260).
2. Reinforcing Steel: ASTM A615, grade 60 unless otherwise specified.
3. Guardhouse: 6'-6" W x 10'0"L x 10'0"H prefabricated metal building.
4. Exterior finish to be a non-corroding clear anodized aluminum. All anodized aluminum surfaces to carry a five-(5) year warranty from surface deterioration caused by oxidation. Interior finish to match exterior. Color to be selected.

5. Floor: Floor structure to be an integral part of the building and constructed of marine-grade plywood.
6. Doors: Doors to be of anodized aluminum and placed on both the east and west face of the building. Panel finish to match interior and exterior building walls. Door to be sliding and shall include knobbed lockset with key. Provide a half-height horizontal sliding transaction window with fixed window above within door leaf.
7. Windows and Glazing: Windows shall have anodized aluminum frames and inserts and to be industrial quality with active window panel to slide horizontally on stainless steel, ball-bearing rollers. Windows to be glazed with clear tempered safety glass. Windows to include inside positive locking device.
8. Roof: Exterior waterproof roofs include ribbed anodized fascia trim, matching structural with integral, self-contained gutters.
9. Waterproofing: All elements, including but not limited to floors, windows, doors, and roof, must be watertight.
10. A wall mount HVAC unit shall be mounted on the building prior to delivery to the jobsite. The unit shall be a model WA121-A05 rated 230 volt, 1 phase. A thermostat shall be mounted on the interior of the control building for control of the HVAC unit.
11. Interior and exterior lighting shall be mounted on the building prior to delivery to the jobsite. The exterior light shall be rated for outdoor installation, minimum 70 watt and contain a photocell for automatic operation. The interior shall be per the manufacturer's requirements. They shall be dust-resistant fluorescent fixtures rated for wet location. There shall be two 48" lamps per ballast rated 40 watt.
12. A smoke detector unit shall be mounted in the building prior to delivery to the jobsite.

Temporary Guard House:

1. Concrete: Steel-reinforced, 5000 PSI minimum 28-day compressive strength, air-entrained (ASTM C260).
2. Reinforcing Steel: ASTM A615, grade 60 unless otherwise specified.
3. Guardhouse: 8'0" W x 10'0"L x 8'6"H prefabricated metal building
4. Exterior finish to be a non-corroding clear anodized aluminum. All anodized aluminum surfaces to carry a five-(5) year warranty from surface deterioration caused by oxidation. Interior finish to match exterior. Color to be selected.
5. Floor: Floor structure to be an integral part of the building and constructed of marine-grade plywood.
6. Doors: Doors to be of anodized aluminum. Panel finish to match interior and exterior building walls. Door to be sliding and shall include knobbed lockset with key. Provide a half-height horizontal sliding transaction window with fixed window above within door leaf.
7. Windows and Glazing: Windows shall have anodized aluminum frames and inserts and to be industrial quality with active window panel to slide horizontally on stainless steel, ball-bearing rollers. Windows to be glazed with clear tempered safety glass. Windows to include inside positive locking device.
8. Roof: Exterior waterproof roofs include ribbed anodized fascia trim, matching structural with integral, self-contained gutters.

9. Waterproofing: All elements, including but not limited to floors, windows, doors, and roof, must be watertight.
10. A wall mount HVAC unit shall be mounted on the building prior to delivery to the jobsite. The unit shall be a model WA121-A05 rated 230 volt, 1 phase. A thermostat shall be mounted on the interior of the control building for control of the HVAC unit.
11. Interior and exterior lighting shall be mounted on the building prior to delivery to the jobsite. The exterior light shall be rated for outdoor installation, minimum 70 watt and contain a photocell for automatic operation. The interior shall be per the manufacturer's requirements. They shall be dust-resistant fluorescent fixtures rated for wet location. There shall be two 48" lamps per ballast rated 40 watt.
12. A smoke detector unit shall be mounted in the building prior to delivery to the jobsite.

#### DEMOLITION

Remove and dispose of the existing guard house as indicated on plans per the requirements of the special provision BUILDING REMOVAL - CASE IV (NO ASBESTOS) (BDE).

#### INSTALLATION

The guard house building shall be delivered in one (1) piece to the jobsite and installed on the concrete foundation per the manufacturer's recommendations. Provide and connect a permanent underground electrical and telecommunication connection to the guard house.

The temporary guard house building shall be delivered in one (1) piece to the jobsite and installed on the concrete foundation per the manufacturer's recommendations. Provide a temporary electrical and telecommunication connection to the temporary guard house.

Following completion of the revised PepsiCo entrance, the temporary guard house shall be relocated to a location on the PepsiCo property as designated by the Engineer.

Method of Measurement: This Work will be measured for payment on a Lump Sum basis.

Basis of Payment: This Work will be paid for at the Contract Lump Sum Price for GUARD HOUSE REMOVAL AND REPLACEMENT, which price will be payment in full for all materials, equipment, and labor necessary to complete the Work as herein specified.

#### RELOCATE SIGN, SPECIAL

Description: This item consists of removing the existing Toyota Park S1 sign and reinstalling as specified herein, as shown on the plans and as directed by the Engineer. All appurtenant materials and Work (including mounting hardware, foundation, and electrical service connection) required for the relocation will not be paid for separately but will be included as part of this item.

Submittals: Prior to starting Work, submit proposed methods for the safe removal, transportation, and reinstallation of the existing sign for review and approval by the Engineer, including foundation, connection, and electrical service connection details.

General Requirements: Remove and reinstall as shown on the Plans or as directed by the Engineer. Protect items from damage at all times. Any new hardware, fasteners, foundations, and electrical connections necessary to reinstall the sign will be included in the cost of this item.

Location: Final location for the relocated sign must be coordinated with the Village of Bridgeview and must be approved by the Engineer.

Damaged Items: Any part of the sign damaged, in the judgment of the Engineer, during removal, transportation, or reinstallation must be repaired or replaced with a new part by the Contractor at no additional cost to the Village. Replacement parts must match the dimensions, materials, and finishes – including any lighting and markings – of the original.

Method of Measurement: This Work will be measured for payment on a per each basis.

Basis of Payment: This Work will be paid for at the Contract Unit Price per each for RELOCATE SIGN, SPECIAL, which price will be payment in full for completing the Work as specified.

## **AS-BUILT FIELD DRAWINGS**

The contractor shall provide the Engineer with as-built drawings and field notes detailing the work as the water main, storm sewer, lift station mechanical systems and force main was installed denoting any changes from the design as shown on the plan sheets. The cost for providing this information will be considered included in the cost of the items being detailed.

## **LIFT STATION**

This work shall consist of the furnishing and the installation of a storm water LIFT STATION at the location indicated in the contract drawings.

The Contractor is advised to review the site and familiarize himself with the soil conditions prior to finalizing his bid for this portion of the work. No additional compensation shall be allowed for changes in the construction method due to ground conditions that may exist at the time of construction.

The Contractor shall take all necessary precautions to prevent the undermining of the railroad tracks, roadways, structures, embankments, or property including the utilization of trench boxes, sheeting, etc. to properly maintain the excavation such that underlying soils between the pavement edge etc. and jacking limits are prevented from entering the excavation. In the event that settlement or any other damage occurs to adjacent roadways railroad tracks, and property or structures between the time the installation is completed and the end of the contract bond guaranty period, the Contractor shall be fully responsible for any repairs deemed necessary by the Engineer.

Submit manufacturer's data and details of following items for approval:

1. Substitution of "Or Equal" Items:
  - a. Includes material or equipment CONTRACTOR requests ENGINEER to accept, after Bids are received, as substitute for items specified or described in Specifications by using name of a proprietary item or name of particular supplier.
2. Shop Drawings:
  - a. Includes technical data and drawings specially prepared for this Project, including fabrication and installation drawings, diagrams, actual performance curves, data sheets, schedules, templates, patterns, reports, instructions, design mix formulas, measurements, and similar information not in standard printed form.
  - b. Standard information prepared without specific reference to the Project is not considered a Shop Drawing.
3. Product Data:
  - a. Includes standard printed information on manufactured products, and systems that has not been specially prepared for this Project, including manufacturer's product specifications and installation instructions, catalog cuts, standard wiring diagrams, printed performance curves, mill reports, and standard color charts.
4. Samples:
  - a. Includes both fabricated and manufactured physical examples of materials, products, and units of work, partial cuts of manufactured or fabricated work, swatches showing color, texture, and pattern, and units of work to be used for independent inspection and testing.
5. Miscellaneous Submittals:
  - a. Work-related submittals that do not fit in the previous categories, such as guarantees, warranties, certifications, experience records, maintenance agreements, Operating and Maintenance Manuals, workmanship bonds, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, and similar information, devices, and materials applicable to the Work.

Start-up. Furnish five (5) days of certified factory start-up services for the lift station from the manufacturer's authorized service center. A certified start-up form shall be filed with a copy provided to the owner, and a copy kept on file at the manufacturer.

#### PRECAST CONCRETE LIFT STATION

Furnish and install a precast lift station structure as shown on the plans. The precast lift station structure shall include the following:

- A. Provide manhole sections, base sections, and related components conforming to ASTM C 478. Provide base riser section with integral floors, unless shown otherwise. Provide interlocking adjustment rings which are standard components of manufacturer of manhole sections. Mark date of manufacture and name or trademark of manufacturer on inside of barrel.
- B. Construct barrels for precast manholes from standard reinforced concrete manhole sections of diameter indicated on Drawings. Use various lengths of manhole sections in combination to provide correct height with fewest joints. Design wall sections for depth and loading conditions with minimum thickness of 11 inches. Base section shall have minimum thickness of 12 inches under invert.

- C. Provide precast base sections with flat slab top precast sections.
- D. Provide access door precast into the flat slab top precast section. The angle frame floor access door shall be Model APT300 as manufactured by U.S.F. Fabrication, Inc. with the size being specified on the plans.
  - 1. Covers: 1/4-inch (6.4mm) aluminum diamond plate covers reinforced for 300 psf (1465 kg/m<sup>2</sup>) live load. Equipped with cast aluminum flush lifting handle and 316 stainless steel hold-open arms with red vinyl grips that automatically keep the covers in their open/upright positions.
  - 2. Frame: Extruded aluminum with integral anchor flange and door seat on all four sides.
  - 3. Hardware: 316 stainless steel hinges and tamper resistant bolts/lock nuts.
  - 4. Security: Aluminum staple protrudes through cover for user supplied padlock.
  - 5. The access opening shall have a permanently installed fall through prevention grate system that provides continuous safety assurance in both its closed and open positions. When closed, the grate allows visibility for inspections and performance of limited maintenance below it. When open, the grate acts as an additional barrier to the access door opening.
- E. Design Loading Criteria: Manhole walls, transition slabs, cone tops, and manhole base slab shall be designed, by manufacturer, to requirements of ASTM C 478 for depth as shown on Drawings and to resist following loads.
  - 1. Lateral soil pressure based on saturated soil conditions producing an at-rest equivalent fluid pressure of 100 pcf
  - 2. Internal liquid pressure based on unit weight of 63 pcf
  - 3. Dead load of manhole sections fully supported by transition and base slabs
- F. Design: Manhole walls, transition slabs, cone tops, and manhole base slab shall be designed according to requirements of ASTM C 478 and following:
  - 1. Design additional reinforcing steel to transfer stresses at openings.
  - 2. Wall loading conditions:
    - a. Saturated soil pressure acting on empty manhole
    - b. Manhole filled with liquid to mid-height from invert to cover, with no balancing external soil pressure
  - 3. Minimum clear distance between two wall penetrations shall be 12 inches or half diameter of smaller penetration, whichever is greater
- G. Provide joints between manhole sections with o-ring gaskets conforming to ASTM C 443.
- H. When base is cast monolithic with portion of vertical section, extend reinforcing in vertical section into base.
- I. Precast Concrete Base: Suitable cutouts or holes to receive pipe and connections. Lowest edge of holes or cutouts: For water line manhole, no less than 6 inches above inside surface of floor of base.
- J. Provide joints between sections with o-ring gaskets conforming to ASTM C 443.

- K. When base is cast monolithic with portion of vertical section, extend reinforcing in vertical section into base.
- L. Precast Concrete Base: Provide suitable cutouts or holes to receive pipe and connections. Lowest edge of holes or cutouts: For water line manhole, no less than 6 inches above inside surface of floor of base.
- M. CONCRETE
1. Concrete Fillets: Use 5 sack premix (bag) concrete or Class A concrete for inverts not integrally formed with manhole base, with minimum compressive strength of 4000 psi. Provide steel reinforcement for fillets.
  2. Aggregate Foundation: Provide 12-Inches of compacted crushed stone under base section.
- N. MORTAR
1. Conform to requirements of ASTM C 270, Type S using Portland Cement.
- O. MISCELLANEOUS METALS
1. Provide cast-iron frames, rings, and covers conforming to requirements.
- P. PIPE CONNECTIONS TO MANHOLE
1. Storm Sewer Connections: Provide watertight connections in accordance with ASTM C 923.
- Q. VENT PIPES
1. Provide external vent pipes for manholes where indicated on Drawings.
- R. INSTALLATION
1. Verify that lines and grades are correct.
  2. Determine if sub grade, when scarified and recompacted, can be compacted to 95 percent of maximum Standard Proctor Density according to ASTM D 698 prior to placement of foundation material and base section. When proper density is not reached, moisture condition sub grade until that density is reached or treat as unstable sub grade.
- S. PLACEMENT
1. Install precast manhole to conform to locations and dimensions shown on Drawings.
- T. MANHOLE BASE SECTIONS AND FOUNDATIONS
1. Place precast base on 12 inch thick (minimum) foundation of crushed stone.
- U. PRECAST MANHOLE SECTIONS
1. Install sections, joints, and gaskets in accordance with manufacturer's printed recommendations.
  2. Install precast adjustment rings above tops of cones or flat-top sections as required to adjust finished elevation and to support manhole frame.
  3. Seal any lifting holes with non-shrink grout.

#### V. BACKFILL

1. Place and compact backfill materials in area of excavation surrounding manholes in accordance with requirements of Standard Specifications.
2. Utilities. Provide embedment zone backfill material, as specified for adjacent utilities, from manhole foundation up to an elevation 12 inches over each pipe connected to manhole. Provide trench zone backfill, as specified for adjacent utilities, above embedment zone backfill.

#### PIPING

Piping within the lift station shall be fabricated from Schedule 40 steel pipe and shall terminate with a flange outside the basin wall for connection to valves in the discharge manhole. Discharge piping shall be plain steel pipe. Piping shall be sandblasted on the outside to remove scale, weld, slag, rust, etc., before coating. Piping shall be coated with a "polyurea" coating. The coating shall be a minimum of 12-14 mils thick.

#### PRESSURE TEST

The piping within the station, including valves, fittings, and connections that make up the entire system shall be hydrostatically tested at a pressure of 100 psi or a pressure equal to the lowest test pressure rating of the equipment within the tested system, whichever is greater pressure. The test pressure shall be applied for a minimum of 20 minutes, during which time all joints, connections and seams shall be checked for leaking. Any deficiencies found shall be repaired and the system shall be retested.

#### METAL-TO-METAL RAIL SYSTEM:

The MTM pump rail system shall include a discharge base elbow, sealing flange with rail guide, upper guide bracket, stainless steel lifting chain, and stainless steel guide rails.

The discharge base elbow shall be mounted directly on the sump floor and sized according to the plans. It shall have a standard 125 lb flange, with machined face. The design shall be such that the pump to discharge connection is made without the need for any nuts, bolts, or gaskets. The base elbow shall also anchor two (2) 3" stainless steel guide rails.

The sealing flange/rail guide bracket shall be mounted on each pump discharge. It shall have a machined mating flange which matches the base elbow discharge connection. Sealing of this discharge connection shall be accomplished by simple linear downward motion of the pump culminating with the entire weight of the pumping unit supported entirely by the base elbow. The upper guide bracket shall align and support the two guide rails at the top of the sump. It shall bolt directly to the hatch frame and incorporate an expandable rubber grommet.

Each pump shall be provided with a stainless steel lifting chain, and be of sufficient length to extend from the pump to the top of the wet well. The access frame shall provide a hook to attach the chain when not in use. The lifting chain shall be sized according to the pump weight.

#### WIRING BRACKET

A stainless steel wiring bracket shall provide cord grip holders for the pump cords and the control cords. All cords shall extend from bracket through conduit to control box. No splices shall be made in the wiring. Continuous cords must be used from control panel to pumps and controls. Wiring bracket shall be fastened to access frame.

## SUBMERSIBLE PUMPS

Contractor shall furnish all labor, materials, equipment and incidentals required to install three (3) non-clog submersible centrifugal sewage pump(s) as specified herein.

- A. Operating Conditions. Each pump shall be rated 40 HP, 460 volts, 3 phase, 60 hertz, 1150 RPM. Each pump unit shall meet an operating condition of 3142 GPM at 29.2 Feet TDH which provides the maximum release rate of 14 cfs when operating two (2) pumps in parallel at the maximum static head condition. The pump shall be non-overloading throughout the entire range of operation without employing service factor. The pump shall reserve a minimum service factor of 1.15. The performance curve submitted for approval shall state in addition to head and capacity performance, the pump efficiency and reflect motor service factor.
- B. Construction. The pump shall be a centrifugal, non-clog, solids handling, submersible, wastewater type, model S12L4000, as manufactured by Hydromatic. The pump volute, motor and seal housing shall be high quality gray cast iron, ASTM A-48, Class 30. The pump discharge shall be fitted with a standard ASA 125lb. flange, faced and drilled. All external mating parts shall be machined and Buna N Rubber O-ring sealed on a beveled edge. Gaskets shall not be acceptable. All fasteners exposed to the pumped liquids shall be 300 series stainless steel.
- C. Electrical Power Cord. Electrical power cord shall be STW-A, water resistant 600V, 60 degrees Celsius, UL and CSA approved and applied dependent on amp draw for size. The pump shall be triple protected with a compression fitting and two epoxy potted areas at the power cord entry to the pump. A separation between the junction box area of the pump and the motor by a stator lead sealing gland or terminal board shall not be acceptable.

The power cable entry into the cord cap assembly shall first be made with a compression fitting. Each individual lead shall be stripped down to bare wire at staggered intervals, and each strand shall be individually separated. This area of the cord cap shall then be filled with an epoxy compound potting which will prevent water contamination to gain entry even in the event of wicking or capillary attraction.

The power cord leads shall then be connected to the motor leads with extra heavy connectors having brass inserts with a screwed wire to wire connection, rather than a terminal board that allows for possible leaks.

The connection box wiring shall be separated from the motor housing wiring by stripping each lead down to bare wire, at staggered intervals, and separating each strand. This area shall be filled with an epoxy compound epoxy potting. Fiberglass terminal boards which are subject to heat fatigue and cracking, and which may lead to possible leaks shall not be acceptable.

The cord cap assembly where bolted to the connection box assembly and the connection box assembly where bolted to the motor housing shall each be sealed with a Buna N Rubber O-Ring on a beveled edge to assure proper sealing.

- D. Motor. The stator, rotor and bearings shall be mounted in a sealed submersible type housing. Each pump shall be rated for use in a Class 1, Group D, Division 1 location, as outlined in the latest revision of the National Electric Code. The stator windings shall have Class F insulation, (155 degrees Celsius or 311 degrees Celsius), and a dielectric oil filled motor, NEMA B design. Further protection shall be provided by on winding thermal sensors.

Stators shall be securely held in place with a removable end ring and threaded fasteners so they may be easily removed in the field without the use of heat or a press. Stators held by a heat shrink fit shall not be acceptable. Stators must be capable of being repaired or rewound by local motor service station. Units, which require service only by the factory, shall not be acceptable. No special tools shall be required for pump and motor disassembly.

Pump shall be equipped with heat sensors. The heat sensor shall be a low resistance, bi-metal disc that is temperature sensitive. It shall be mounted directly on the stator windings and sized to open at 120 degrees Celsius and automatically reset at 30-35 degrees Celsius differential. The sensors shall be connected in series with motor starter coil so that the starter shall be equipped with 3 leg overload heaters so all normal overloads are protected by the starter.

- E. Bearings and Shaft. An upper radial bearing and a lower thrust bearing shall be required. These shall be heavy-duty single row ball bearings, which are permanently lubricated by the dielectric oil which fills the motor housing. Double row, sealed grease packed bearings shall not be acceptable. Bearings, which require lubrication according to a prescribed schedule, shall not be acceptable. Bearings shall be locally available.

The shaft shall be machined from a solid 303 stainless steel forging and be a design which is of large diameter with minimum overhang to reduce shaft deflection and prolong bearing life.

- F. Seals. The pump shall have two mechanical seals, mounted in tandem, with an oil chamber between the seals. John Crane Type 21, BF1C1 seals shall be used for both the upper and lower seals. The upper and lower seal shall have silicon carbide rotating and stationary seal faces. The lower seal shall be replaceable without disassembly of the seal chamber and without the use of special tools. Pump-out vanes shall be present on the backside of the impeller to keep contaminants out of the seal area. Units, which require the use of tungsten-carbide seals or foreign manufactured seals, shall not be acceptable. Seals shall be locally available.

The pump shall be equipped with a seal leak detection probe and warning system. This shall be designed to alert maintenance personnel of lower seal failure without having to take the unit out of service for inspection or requiring access for checking seal chamber oil level and consistency.

There shall be an electric probe or seal failure sensor installed in the seal chamber between the two tandem mechanical seals. If the lower seal fails, contaminants which enter the seal chamber shall be detected by the sensor and send a signal to operate the specified warning device.

- G. Impeller. Impeller shall be of the two-vane, enclosed non-clogging design and have pump-out vanes on the front and backside of the impeller to prevent grit and other materials from collecting in the seal area. Single vane design impellers which cannot be easily trimmed and which do not maintain balance with wear causing shaft deflections and reducing seal and bearing life are not acceptable. The impeller shall be constructed of Class 65, ductile iron (ASTM A-536). The impeller shall not require coating. Because most impeller coating do not remain beyond the very early life of the impeller, efficiency and other performance data submitted shall be based on performance with an uncoated impeller. Attempts to improve efficiency by coating impeller shall not be acceptable.

Impellers shall be dynamically balanced. The tolerance values shall be listed below according to the International Standard Organization grade 6.3 for rotors in rigid frames. The tolerance is to be split equally between the two balance planes, which are the two impeller shrouds.

The impeller shall be slip fit to a tapered shaft and key driven. A 300 series stainless steel washer and impeller bolt shall be used to fasten the impeller to the shaft. Straight end shafts and/or threaded shafts for attachment of the impeller shall not be acceptable.

- H. Casing. The casing shall be of the end suction volute type having sufficient strength and thickness to withstand all stress and strain from service and full operating pressure and load. The casing shall be of the centerline discharge type equipped with an automatic pipe coupling arrangement for ease of installation and piping alignment. The design shall be such that the pumps will be automatically connected to the discharge piping when lowered into position with the guide rails. The casing shall be accurately machined and bored for register fits with the suction and casing covers.

A volute case wearing ring shall be provided to minimize impeller wear. The wear ring shall be alloy 230 brass, ASTM B-43 and held by 300 series stainless steel fasteners. The wear ring shall be easily replaceable in the field. Wear rings of any other material shall not be acceptable.

- I. Painting. The pump shall be painted after assembly, but before testing, with a zinc chromate base enamel. The paint shall be applied in one coat and shall be air dried prior to testing.
- J. Serviceability. The complete rotating assembly shall be capable of being removed from the volute without disturbing the suction piping, discharge piping, and volute. The motor housing, seal housing with seal plate and impeller still attached to the shaft shall be capable of being lifted out of the volute case from the top as one assembly. No special tools shall be required for servicing the pumps.
- K. Support. Though the pump may not require feet to support the unit while installed, the pump volute must have feet to support the unit when removed for service. Units, which do not have feet upon which the unit can be supported when removed for service, shall not be acceptable.
- L. Testing. Commercial testing shall be required and include the following:

1. The pump shall be visually inspected to confirm that it is built in accordance with the specifications as to horsepower, voltage, phase and hertz.
2. The motor seal and housing chambers shall be meggered for infinity to test for moisture content or insulation defects.
3. Pump shall be allowed to run dry to check for proper rotation.
4. Discharge piping shall be attached, the pump submerged in water and amp readings shall be taken in each leg to check for an imbalanced stator winding. If there is a significant difference in readings, the stator windings shall be checked with a bridge to determine if an unbalanced resistance exists. If so, the stator shall be replaced.
5. The pump shall be removed from the water, meggered again, dried and the motor housing filled with dielectric oil.

#### PREFABRICATED CONTROL BUILDING

A prefabricated building that will house all controls, VFD's, ATS and related equipment for the pump station shall be furnished and installed on a concrete foundation. The building shall be manufactured by Metropolitan Industries or equal. The building shall have a UL classification QRNZ for Industrial and Commercial Prefabricated Buildings. All controls and electrical equipment shall meet NEC requirements and be UL listed. The entrance door shall be sized to provide for eventual removal and replacement of any component within the station without altering the building to accomplish that task.

The building shall be delivered in one (1) piece to the jobsite.

A. Reference Standards. The building shall conform to the following standards:

1. ACI-318-02, "Building Code Requirements for Reinforced Concrete". Concrete Reinforcing Institute, "Manual of Standard Practice".
2. ANSI/ASCE-7-02 "Building Code Requirement for Minimum Design Loads in Buildings and Other Structures".
3. IBC 2003, 1996 BOCA
4. Concrete Reinforcing Institute, "Manual of Standard Practice".
5. UL-752 test method level 4 for bullet resistance certified by an independent structural engineer.
6. Fabricator must be a certified producer under the National Precast Concrete Association's (NPCA) quality control certification program.

B. Dimensions. The building shall have the following dimensions:

1. Exterior Dimensions: 6'-8" x 10'-2" x 10'-4" (Peak of Gabled Roof)
2. Interior Dimensions: 6'-0" x 9'-6" x 8'-0"

C. Design Standards. The building design shall meet the following design requirements:

1. Seismic load performance category 'C'. Exposure Group III
2. Standard Live Roof Load – 60 PSF
3. Standard Floor Load – 250 PSF
4. Standard Wind Loading – 130 MPH

5. Ceiling, floor, and wall panels must each be produced as single component monolithic panels. No roof, floor, or vertical wall joints will be allowed, except at corners. Wall panels shall be set on top of floor panel.
6. Gabled Roof shall use a 1 / 2 pitch. Gabled roof shall have an overhang on all sides with metal fascia. Metal fascia and color of shingles to be determined by owner.

D. Materials of Construction. The building shall have the following materials of construction:

1. Concrete: Steel-reinforced, 5000 PSI minimum 28-day compressive strength, air-entrained (ASTM C260).
2. Reinforcing Steel: ASTM A615, grade 60 unless otherwise specified.
3. Post-tensioning Strand: 41K Polystrand CP50, .50, 270 KSI, 7-wire strand, enclosed within a greased plastic sheath, (ASTM A416). Roof and floor each to be post-tensioned by a single, continuous tendon. Said tendon shall form a substantially rectangular configuration having gently curving corners wherein the positioning of the cable member results in a pattern of one or more loops and a bisecting of the loop(s). The cable member starts from one corner of the concrete building panel, forms a gentle perimeter loop(s) returning to a point where the cable member entered the concrete building panel. The tendon then turns 90 degrees and follows the cable member(s) to a point midway along the "Y" axis of the concrete building panel and then turns 90 degrees along the "X" axis of the concrete building panel. This bisects the concrete building panel and crosses the opposite parallel portion of the cable member and exits from an adjacent side of the concrete building panel.
4. Caulking: All joints between panels shall be caulked on the exterior and interior surface of the joints. Caulking shall be SIKAFLEX-1A elastic sealant or equal. Exterior caulk joint to be 3/8" x 3/8" square so that sides of joint are parallel for correct caulk adhesion. Back of joint to be taped with bond breaking tape to ensure adhesion of caulk to parallel sides of joint and not the back.
5. Panel Connections: All panels shall be securely fastened together with 3/8" thick steel brackets. Steel is to be of structural quality, hot-rolled carbon complying with ASTM A283, Grade C and hot dipped galvanized after fabrication. All fasteners to be 1/2" diameter bolts complying with ASTM A307 for low-carbon steel bolts. Cast-in anchors used for panel connections to be Dayton-Superior #F-63, or equal. All inserts for corner connections must be secured directly to form before casting panels. No floating-in of connection inserts shall be allowed.

E. Accessories. The building shall have the following accessories:

1. Doors and Frames: Shall comply with Steel Door Institute "Recommended Specifications for Standard Steel Doors and Frames" (SDI-100) and as herein specified. The buildings shall be equipped with a single 3'-0" x 7'-0" x 1-3/4", 18-gauge galvanized/insulated Dominion Imperial right hand reverse metal doors or equal with 16-gauge galvanized frames. Doors and frames shall be bonderized and painted one coat of rust inhibitive primer and one finish coat of enamel paint; color to be selected by owner at time of submittals with color charts provided.

F. Door Hardware. The building shall have the following hardware:

1. Handle: Lindstrom stainless steel, 8-1/2" x 2" or approved equal, inside pull handle to be provided on active leaf.

2. Hinges: PB-31/NRP/26D 4 1/2" x 4 1/2" (chrome-plated with non-removable hinge pins), 3 per door or approved equal.
  3. Lock Set: PDQ Industries KR116 – 32D (stainless steel finish) or approved equal.
  4. Surface Bolt, Upper: Cal-Royal 045901426D (satin chrome finish) or approved equal.
  5. Surface Bolt, Lower: Cal-Royal 045901426D (satin chrome finish) or approved equal.
  6. Astragal: A4441/68R or approved equal.
  7. Threshold: National Guard 987V60 raised interior, extruded aluminum threshold with neoprene seal or approved equal.
  8. Door Holder: Glynn-Johnson 904H US32D (stainless steel finish), overhead slide type surface mounted door holder or approved equal.
  9. Drip Cap: National Guard 15D72 or approved equal.
  10. Door Stop: Ives 445B26D (Inactive leaf only) or approved equal.
  11. Automatic Closure: Series 40H or approved equal.
  12. Panic Hardware
- G. Room Finishes. The building shall have the following finishes:
1. Interior of Building: Smooth steel form finish on all interior panel surfaces with finish paint.
  2. Exterior of Building: Architectural precast concrete brick finish: Finish must be imprinted in top face of panel while in form using an open grid impression tool similar to Easi-Brick. Finished brick size shall be 2 3/8" x 7 5/8" with vertical steel float or light broom finish. Joints between each brick must be 3/8" wide and 3/8" deep. Back of joint shall be concave to simulate a hand-tooled joint. Each brick face shall be coated with the following acrylic concrete stain: 1) Cementrate by Fosbroc; or, 2) Canyon Tone stain by United Coatings. Stain color shall be selected by the owner at the time of submittals with color charts provided. Stain shall be applied per manufacturer's recommendation. Joints shall be kept substantially free of stain to maintain a gray concrete color. Finish color to be selected by Owner.
- H. Metal Roof. Furnish and install roofing panels, halters, fasteners, flashing, closures, insulation and related accessories required for a complete roofing system.
1. Design Requirements
    - a. The standing seam roof system shall be designed to safely resist the positive and negative loads as required for the location and type of project designed.
    - b. Structural-uniform uplift load capacity of the panel system shall be determined in accordance with the principles of ASTM E1592, "Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference" as follows:
      1. The Factor of Safety on the test results shall be 1.65 for the panel and clip/halter ultimate loads with no increase for wind.
      2. The Factor of Safety for fasteners shall be 3.0 for single fastener in each connection, 2.25 for 2 or more fasteners in each connection and 4.0 in masonry.
      3. Design uplift capacity for condition of gage, span or loading other than those tested may be determined by interpolation of test results.
    - c. Deflection shall be l/180 for positive loading.
    - d. Water penetration of the panel assembly at 20psf pressure for 15 minutes shall have "no uncontrollable leakage" when tested in accordance with ASTM E331.

- e. Air infiltration of panel assembly at 20 psf pressure shall be no more than 0.02 cfm/sf of panel when tested in accordance with ASTM E283.
- f. The panel system shall have a U.L. Class 90 rating.
- g. The panel system shall have Factory Mutual approval per research standard 4471 meeting a (minimum) class 01-90, 0 1-105, 0 1-120, 0 1-180 .
- h. Fasten the roofing panels to the structure through the use of concealed halters/clips which are designed to allow for all panel movement through a temperature differential of 180°F without impeding the performance of the panel.

## 2. Materials

### a. Metal Panels

- 1. Fabricate metal panels from a minimum of 0 .040" thick aluminum, 0 .050" thick aluminum alloy 3004-H-14 clad, or 0 22 gage (.030"), 020 gage (.036") gage G-90 Galvanized steel conforming to ASTM A653 structural quality Grade 33, Grade A and ASTM A792, Grade 50B with an AZ50 coating when coil coated or AZ55 when used bare. Plain Mill Finish or stucco embossed.
- 2. Panels shall be a maximum of 0 12" wide (305mm), or 0 16" wide (400mm) with a minimum vertical standing leg height of 2 ½".

### b. Concealed Clips

- 1. Fasten standing seam roofing to structure with specially designed and tested clips/halters manufactured exclusively for the roofing system.
- 2. Clips/halters must be designed to allow the roofing materials free movement in either direction parallel to the standing leg of the panel.

### c. Finish

- 1. Exterior Surface of Panels: Consisting of a nominal .2 mil primer and nominal .8 mil 70% polyvinylidene topcoat. The color shall be selected by Owner.

#### a. The coating system must have been tested to and exhibited the minimum characteristics of the following ASTM test criteria:

- i. Specular Gloss (ASTM D-523 @ 60 degrees), Standard gloss of 20-30.
- ii. Pencil Hardness (ASTM D-3363), HB-H
- iii. Flexibility, T-Bend (ASTM D-4145), No cracking or tape removal of film at 1-T on painted aluminum and at 2-T on paint steel.
- iv. Adhesion/Reverse Impact, (ASTM D-3359, D-2794), 1.5 times metal thickness with no loss of adhesion. No cracking or loss of adhesion.
- v. Abrasion/Falling Sand, (ASTM D-968), Liters to expose 5/32" of substrate-50.
- vi. Acid Pollutants, (ASTM D-1308) 10% muriatic acid (15 min) no effect, 20% Sulfuric acid (15 min) no effect.
- vii. Salt Spray Resistance 5% @ 95 degrees F (ASTM B-117). Passes 3,000 hrs on alum. And 1,000 hrs on coated steel.

- viii. Humidity Resistance 100% @ 95 degrees F (ASTM D-2247). Passes 3,000 hrs on alum. And 1,000 hrs on coated steel.
  - ix. Weathering Tests (ASTM D-2244, D-822 Color Retention, D-659 Chalk Resistance), Less than 5NBS units change, Passes 5,000 hrs., Rating of 8 min.
3. Flashing - All trim materials to be same gage and finish as specified for the panel system.
  4. Continuous applied weather seal to be installed during the manufacturing process of the panel system.

**PAINTING**

Field prime and finish, where exposed to view, all items not shop primed or shop finished. This Work generally includes, but is not limited to, the following: interior walls and ceilings, door, small piping and copper tubing, miscellaneous fabrications, and fittings.

Do not paint the following items, unless otherwise specified: registers, grilles, dampers and linkage, name and identification plates and tags, brass pipe and fittings, brass valves, stainless steel, PVC piping, galvanized steel, PVC conduit, and surfaces to receive field welding.

Furnish paint and other materials of the type and quality of the manufacturer on which the painting schedule specified herein is based.

1. Provide compatible shop and field coats.
2. Provide all coats of paint for any particular surface from the same manufacturer.
3. Provide paint of Village approved color as selected from the manufacturer's standard range of colors.

Paint Schedule: Provide all painting in accordance with the following schedule with the number of coats not less than the number shown on the schedule.

<b>MATERIAL PAINTING SCHEDULE</b>		
<b>CLASS OF WORK</b>	<b>PRIMER SHOP COAT</b>	<b>FIELD COAT</b>
Interior Walls and Ceiling	A	B
Door, Frame & Miscellaneous Equipment	A	C
Steel & Non-Ferrous Metal	A	A

Schedule of Paints: Alphabetical designations in the following list are given solely for the purpose of indicating the type and quality of materials desired. Equivalent material from other approved manufacturers may be substituted.

Item	Product Name and Number	Minimum Thickness (mils per coat)
	Spec Series 69 Hi-Build Epoxoline II	.0
	Spec Series 113 or 114 H.B. Tnemec-Tufcoat	.0
	Spec Series 74 Endura-Shield	.0

#### ELECTRICAL/CONTROL EQUIPMENT

This section of the specifications covers acceptable materials and methods for furnishing and installation of the pump control system, which shall be a completely prefabricated in a housed structure

The 400 Amp, 3 phase, 277/480 volt, 4- wire electrical service shall be coordinated and installed in conjunction with ComEd.

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

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

The Contractor shall ascertain the work being provided by ComEd and shall provide all additional material and work required to complete the electric service work in complete compliance with the requirements of the utility. The material and labor required to extend, connect or modify the electric services, as indicated or specified, which is over and above the work performed by the utility shall be included in the cost of the Lift Station.

The Contractor will be reimbursed for ComEd's service installation to the exact amount of money as billed by ComEd for its electrical service. For bidding purposes, this item shall be estimated at \$10,000.00 and included in the cost of the Lift Station.

Materials and installation shall comply with codes, laws and ordinances of Federal, State, and local governing bodies having jurisdiction. Should work be performed which does not comply with the requirements of the applicable building codes, State and Federal laws, local ordinances, industry standards and utility company regulations, changes for compliance shall be done at no addition cost to the Owner.

The drawings for work are diagrammatic and are intended to convey the scope of work and indicate the general arrangement of conduit, boxes, equipment, fixtures and other work included in the contract. Location of items required by the drawings or specifications not definitely fixed by

dimensions are approximate only and exact locations necessary to secure the best conditions and results shall be determined at the site and shall be subject to approval.

Follow drawings in laying out work, check drawings of other trades to verify spaces in which work will be installed, and maintain maximum headroom and space conditions at all points. Where headroom or space conditions appear inadequate, the Engineer shall be notified before proceeding with installation.

Perform all work with skilled mechanics of the particular trade involved in a neat and workmanlike manner.

Without additional cost to the Owner, the Contractor shall make minor modifications in the work as required by structural interferences, by interferences with work of other trades or for proper execution of the work.

Equipment shall be installed with adequate space allowed for removal, repair or changes to equipment. Ready accessibility to removable parts of equipment and to wiring shall be provided without moving other equipment which is to be installed or which is in place. Electrical Contractor shall verify measurements. Discrepancies shall be brought to the Engineer's attention for interpretation.

Location of electrical outlets, panelboards, cabinets, equipment, etc. is approximate and exact locations shall be determined at the project.

#### Products

1. Rigid Metal Conduit and Fittings: Rigid Steel Conduit: ANSI C80.1.
2. Intermediate Metal Conduit (IMC) and Fittings: Conduit: Galvanized steel. Fittings and Conduit Bodies: ANSI/NEMA FB 1; use fittings and conduit bodies specified above for rigid steel conduit.

#### Conduit Sizing, Arrangement, and Support:

1. Size conduit for conductor type installed or for Type THW conductors, whichever is larger; 3/4 inch minimum size.
  2. Arrange conduit to maintain headroom and present a neat appearance.
  3. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls and adjacent piping.
  4. Maintain minimum 6 inch (150 mm) clearance between conduit and piping. Maintain 12 inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances.
  5. Fasten conduit using galvanized straps, lay-in adjustable hangers, clevis hangers, or bolted split stamped galvanized hangers.
  6. Group conduit in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps. Provide space for 25 percent additional conduit.
- A. Triplex Pump Control Panel. The pumping system shall be supervised and controlled by a microprocessor based control computer. The control panel shall be a complete automatic control package consisting of the control computer, operator interface, and discreet operator controls. All components shall be enclosed in NEMA type 1 enclosures. The control panel shall be completely pre-wired and tested at the factory. All customer connections shall be

wired to individually numbered terminals and wires shall be numbered at both ends for ease of troubleshooting. The operator interface screen shall be mounted on the enclosure door.

B. Referenced Standards

1. National Electrical Manufacturers Association (NEMA)
2. NEMA 250-1991, Enclosures for Electrical Equipment (1000 Volts Maximum)
3. Institute of Electrical and Electronic Engineers
4. ANSI / IEEE C37.90, Surge withstand capability
5. Underwriters Laboratory
6. UL 508, Industrial Control Equipment

C. System Operation. The control system shall operate pump(s) as necessary to maintain the wetwell level as set by the operator. The pump(s) shall operate at power and speed as regulated by controls.

The microprocessor based computer shall coordinate operational input signals including the system set point, level signal, selector switch positions, indicator lights, and alarms. The computer shall coordinate pump operation, pump speed, alternation, and system alarms. The lead pump shall operate as required at variable speed to maintain the desired set point.

The control computer shall be responsive to the wet well level, to control the system. Level shall be compared to the adjustable set point and conditioned for stable operation with internally adjustable rate, reset, and proportional band functions. Alarm and override staging set points shall be programmed as a deviation above and below the set points.

The proportional output signal from the control computer shall operate with internally set reset and rate response when following a deviation that is within the adjusted proportional band. When pilot signals deviate from the set point in proportion greater than the internally adjusted proportional band, the controller shall control rapidly by bypassing rate in order to follow the rapidly changing signals. The controller shall maintain the variable speed proportional band for any pump, or combination of pumps in operation within set  $\pm 5$  percent deviation from the adjusted set point.

The pumping system shall be programmed with an operational program. Minimum and maximum set points shall be programmed into the control system that shall limit the operator selectable control range of the computer to safe limits, within the system design range. The operator shall be able to change the system set points through the operator interface, within the preprogrammed safe limits.

Controller firmware shall provide real-time multitasking allowing up to fifteen independent tasks. Operating Program language shall be ladder, with specialized function modules written in "C", permitting specific program functions such as flow computations, data logging and the creation of custom communications protocols. The program shall be factory installed and tested in the system and shall have provision for field reprogramming. A disk and printed copy of the operating program shall be maintained on file with the manufacturer, and a copy of the final program on a disk shall be furnished to the customer for file.

Floats shall be provided as a back up to primary level controls. On sump level rise, the "Off" float switch shall tip and energize the system to be ready for operation. As the sump level

continues to rise, the "Pump 1 On" float switch shall tip and start the lead pump. With lead pump operating, the sump level shall lower to the "Off" float switch turning-off pump 1. The lead and lag pump shall alternate on each successive pumping cycle. If sump level continues to rise when the lead pump is operating, the override switch shall energize and start the lag pump(s). Both the lead and lag pump(s) shall operate together until low level switch turns off both pumps. If level continues to rise when all pumps are operating, the "high level" alarm switch shall energize and signal the alarm. If one pump should fail for any reason, the next available pump shall operate on the override control. All level switches shall be adjustable for level setting from the surface.

The system shall operate completely unattended, and shall have running, lock-out, and failure contacts for optional connection to supervisory controls. A condition that is not satisfied by a pump within a programmable time period will signal an alarm. Provide alarm light for remote mounting on the exterior of the pump station. Provide battery backup and dim glow circuits for the remote alarm light. Alarm light shall flash bright on the following alarm conditions:

1. High Wetwell Level
2. Building Intrusion
3. Power Fail
4. Smoke Alarm
5. Generator Failure

- D. Construction. The Central Processing Unit shall be microprocessor based with a real-time multi-tasking executive operating system stored in EPROM. The CPU shall provide a minimum of 128k of CMOS RAM for user programs and data. The memory shall be protected by an on-board lithium battery. The processor shall be a single chip 16 bit CMOS microcomputer operating at 14.74 MHZ. The CPU shall be equipped with a hardware clock/calendar and watchdog timer.

CPU shall function as specified over an ambient temperature range of -40 degrees to +60 degrees C with a relative humidity up to 95%. Central Processing Unit shall be certified and proven to conform to radio frequency emissions standards DOC/CSA C108.8 and FCC Part 15 Subpart J.

The following diagnostic indicators shall be provided:

1. Power supply output status of all outputs
2. Program execution status
3. Processor reset status
4. Error status by flashing a binary error code

The controller shall utilize a switch mode power supply exhibiting at least 70% efficiency to minimize heat build up. The inputs to the power supply shall be 24vac, 60hz  $\pm$  20%, or 12vdc to 40vdc. The ac and dc inputs will be separate and independently fused.

Control functions shall include real-time, multi-tasking PID program blocks for feedback control algorithms. Up to 16 PID loops shall be capable of executing at the same time.

Each control loop shall have an independent execution period. The PID block shall support set point tracking, cascade set points, anti-integral windup, derivative gain limiting, output limiting, square root extraction and input/output biasing.

The controller shall provide two RS232 and one RS485 communications ports. All communications shall be interrupt driven to allow communication concurrent with other activities.

The controller shall include one modem port to allow two-way data communications. Communications with the central computer site will be via a cellular telephone service and shall be compatible with the existing SCADA computer.

The controller shall be equipped with the required number of analog inputs complete with surge suppression and filtering. Optional measurement ranges shall include 0-1v, 0-5v, 0-20ma, and 0-10v.

Analog inputs shall be differential (floating) with respect to ground, and shall operate accurately with up to 35 volts of common-mode voltage. The inputs shall provide a minimum of 400 kilohms impedance relative to ground and 800 kilohms differentially.

The analog to digital converter shall provide a minimum of 14 bits bipolar (14 bit plus sign). Analog inputs shall provide an absolute accuracy of 0.1 percent over the specified temperature range. Analog inputs shall be configurable for filter constants to automatically dampen signal noise.

In addition to external analog inputs, the controller shall have internal analog input channels to measure the temperature of the controller and lithium backup battery voltage. These signals may be used by the program to annunciate excessive temperatures or impending need for battery replacement.

The controller shall be equipped with the required number of analog outputs. The controller shall include an onboard power source to drive the outputs. Each analog output shall be capable of driving 20ma. If the output is a 4-20ma output, it shall be capable of driving the 20ma into a 1000 ohm load. The output shall maintain the last output value until it is updated. The resolution of the output shall be 12 bits.

The controller shall be configured with the appropriate number of digital inputs/outputs. All inputs shall be optically isolated with surge suppression. Each input shall be completely independent without a common ground. Outputs shall be individually isolated without a common ground. Solid state triac or transistor outputs are acceptable. The controller shall also be capable of providing dry contact, form C relay outputs.

All inputs and outputs shall survive ANSI/IEEE C37.90 surge withstand capability tests without damage.

Operator controls and indicators shall include:

1. Run light for each drive
2. Drive fault light
3. Audible Alarm

4. Alarm Acknowledge Silence pushbutton
5. Float / Transducer / Auto Selector Switch
6. Float Back-up Mode Acknowledge pushbutton
7. Pump Overtemp Lights
8. Pump Hand/Off/Automatic selectors
9. Operator interface

- E. Operator Interface. The operator interface panel shall show system status, and shall provide the operator with convenient screen keys for the entry of pass codes, set points, and commands. Multi-level password protection shall be available to prevent unauthorized set point changes. All information displayed on the screen shall be in plain English or simple graphic representations.

The operator interface shall consist of a 10-Inch color touch-screen display panel.

The display panel shall include power conversion circuitry and a graphics drawing controller with four text sizes, graphic symbols library, graphics editor, and screen memory.

The touch panel shall be integrally attached to the display screen bezel, and shall be spaced at a distance of 1/16" from the display panel. The touch panel shall be sealed from dirt & moisture, shall not exhibit parallax within the viewing angle, and shall permit a minimum of 160 programmable touch points per screen.

Statistical Display Screen:

1. Pump Status (Off/running/alarm) - each pump
2. Pump Running Hours - each pump
3. Wetwell Level
4. Level Setpoints
5. Alarm Conditions
6. Drive Failure
7. Transmitter Failure
8. Back-up Float Mode
9. Generator Status

Setpoint Screens:

1. Level Setpoints
2. Pump Curve Staging Points
3. Control Loop Constants
4. Alarm Setpoints

The assembly shall not require more than 5 inches of enclosure depth, and shall allow full use of the enclosure interior back panel for the host microprocessor and discrete control components.

- F. SCADA. SCADA components shall be furnished as an integral component of the pump control panel. The SCADA panel integration with graphical development shall be provided at the master computer. There shall be a cellular phone service provided for communication with the existing SCADA master computer.

The SCADA panel shall report the following information:

1. Pump Status (Off/running/alarm) - each pump
2. Pump Running Hours - each pump
3. Wetwell Level
4. Level Setpoints
5. Alarm Conditions
6. Drive Failure
7. Transmitter Failure
8. Back-up Float Mode
9. Generator Status

#### VARIABLE FREQUENCY DRIVES.

This specification is to cover a complete Variable Frequency Motor Drive (VFD) consisting of a pulse width modulated (PWM) inverter designed for use on a standard NEMA Design B induction motor. The manufacturer shall have been engaged in the production of this type of equipment for a minimum of ten years.

##### A. Referenced Standards

1. Underwriters Laboratories UL508C
2. National Electrical Manufacturer's Association (NEMA)
3. ICS 7.0, AC Adjustable Speed Drives
4. IEC 16800 Parts 1 and 2

B. Qualifications. VFD's and options shall be UL listed as a complete assembly.

C. Construction. The variable frequency drives (VFD's) shall be solid state, with a Pulse Width Modulated (PWM) output. The VFD package as specified herein shall be enclosed in a NEMA 1 enclosure, completely assembled and tested by the manufacturer. The VFD shall employ a full wave rectifier (to prevent input line notching), Integral Line Reactor(s), Capacitors, and Insulated Gate Bipolar Transistors (IGBT's) as the output switching device. The drive efficiency shall be 97% or better at full speed and full load. Fundamental power factor shall be 0.98 at all speeds and loads.

Input 380/415/440/460/480 VAC  $\pm$  10%, 3 phase, 48-63 Hz

Environmental operating conditions: 0 to 40°C, 0 to 3300 feet above sea level, less than 95% humidity, non-condensing.

Enclosure shall be rated NEMA-1.

D. Standard Features. All VFD's shall have the same customer interface, including digital display, and keypad, regardless of horsepower rating. The keypad is to be used for local control, for setting all parameters, and for stepping through the displays and menus. The keypad shall be removable, capable of remote mounting, and shall have it's own non-volatile memory. The keypad shall allow for uploading and downloading of parameter settings as an aid for start-up of multiple VFD's.

The keypad shall include Hand-Off-Auto membrane selections. When in "Hand" the VFD will be started and the speed will be controlled from the up/down arrows. When in "Off", the VFD will

be stopped. When in "Auto" the VFD will start via an external contact closure and the VFD speed will be controlled via an external speed reference. The drive shall incorporate "bumpless transfer" of speed reference when switching between "Auto" and "Hand" modes.

The VFD shall have the ability to automatically restart after an overcurrent, overvoltage, undervoltage, or loss of input signal protective trip, the number of restart attempts, trial time, and time between reset attempts shall be programmable.

The VFD shall be capable of starting into a rotating load (forward or reverse) and accelerate or decelerate to setpoint without safety tripping or component damage (flying start).

The VFD shall be equipped with an automatic extended control power loss ride-through circuit, which will utilize the inertia of the load to keep the drive powered. Minimum power loss ride-through shall be one-cycle, based on full load and no inertia. Removing power from the motor is not an acceptable method of increasing power loss ride-through.

If the input reference (4-20mA or 2-10V) is lost, the VFD shall give the user the option of either (1) stopping and displaying a fault, (2) running at a programmable preset speed, (3) hold the VFD speed based on the last good reference received, or (4) cause a warning to be issued, as selected by the user. The drive shall be programmable to signal this condition via a keypad warning, relay output and/or over the serial communication bus.

The customer terminal strip shall be isolated from the line and ground.

The drive shall employ current limit circuits to provide trip free operation. The Slow Current Regulation limit circuits shall be adjustable to 150% (minimum) of the VFD's normal duty current rating. This adjustment shall be made via the keypad, and shall be displayed in actual amps, and not as percent of full load.

The Current Switch-off limit shall be fixed at 350% (minimum, instantaneous) of the VFD's normal duty current rating.

The overload rating of the drive shall be 110% of its normal duty current rating for 1 minute in every 10 minutes.

The VFD shall have an integral Line Reactor(s) to reduce the harmonics to the power line and to increase the fundamental power factor.

Adjustments. Two (2) programmable critical frequency lockout ranges to prevent the VFD from operating the load continuously at an unstable speed.

Two (2) programmable analog inputs shall accept a current or voltage signal for speed reference, or for reference and actual (feedback) signals. Analog inputs shall include a filter; programmable from 0.01 to 10 seconds to remove any oscillation in the input signal. The minimum and maximum values (gain and offset) shall be adjustable within the range of 0 - 20 ma and 0 - 10 Volts. Additionally, the reference must be able to be scaled so that maximum reference can represent a frequency less than 60 Hz, without lowering the drive maximum frequency below 60 Hz. Five (5) programmable digital inputs for maximum flexibility in interfacing with external devices. One digital input is to be utilized as a customer safety

connection point for fire, freeze, and smoke interlocks (Enable). Upon remote, customer reset (reclosure of interlock) drive is to resume normal operation.

One (1) programmable analog output proportional to Frequency, Motor Speed, Output Voltage, Output Current, Motor Torque, Motor Power (kW), DC Bus voltage, Active Reference, and other data.

Two (2) programmable digital relay outputs. The relay shall be rated for maximum switching current 8 amps at 24 VDC and 0.4 at 250 VAC; Maximum voltage 300 VDC and 250 VAC; Continuous current rating 2 amps RMS. Outputs shall be true form C type contacts; open collector outputs are not acceptable. Relays shall be capable of programmable on and off delay times.

Seven (7) programmable preset speeds.

Two independently adjustable accelerate and decelerate ramps. These ramp times shall be adjustable from 1 to 1800 seconds.

The following operating information displays shall be standard on the VFD digital display. All applicable operating values shall be capable of being displayed in engineering (user) units. A minimum of two operating values from the list below shall be capable of being displayed at all times. The display shall be in complete English words (alpha-numeric codes are not acceptable):

1. Output Frequency
2. Motor Speed (Rpm, %, or Engineering Units)
3. Motor Current
4. Calculated Motor Torque
5. Calculated Motor Power (Kw)
6. Dc Bus Voltage
7. Output Voltage
8. Heatsink Temperature (I f)
9. Analog Input Values
10. Analog Output Value
11. Keypad Reference Values
12. Elapsed Time Meter (Resettable)
13. Kwh Meter (Resettable)
14. Mwh Meter
15. Digital Input Status
16. Digital Output Status

The VFD shall have the following protection circuits. In the case of a protective trip, the drive shall stop, and annunciate the fault condition in complete words (alphanumeric codes are not acceptable).

1. Overcurrent trip 350% instantaneous (170%RMS) of the VFD's variable torque current rating
2. Overvoltage trip 130% of the VFD's rated voltage
3. Undervoltage trip 65% of the VFD's rated voltage

4. Overtemperature + 90°C
5. Ground Fault either running or at start
6. Adaptable Electronic Motor Overload (12t). The Electronic Motor Overload protection shall protect the motor based on speed, load curve, and external fan parameter. Circuits, which are not speed dependant, are unacceptable. The Electronic Motor Overload protection shall be UL listed for this function.

E. Speed Command Input

Keypad. Two Analog inputs, each capable of accepting a 0-20mA, 4-20mA, 0-10V, 2-10V

#### INSTRUMENTATION

Instrumentation shall consist of primary sensing elements and transmitters for level sensing. Sensors and transmitters shall be provided for the following:

1. Wetwell Level

- A. Submersible Level Transducer (Primary Operation) Wetwell level shall be sensed with a submersible level transducer. The transducer housing shall be 316 stainless steel fitted with a SS cable support bracket. The transducer shall be designed for direct submergence in a tank or contractor furnished PVC stilling well.

Liquid level shall be sensed by the deflection of a stainless steel diaphragm having a displacement of less than 5 cu.mm from 0 to full scale. The atmospheric pressure side of the diaphragm shall be bonded to a silicon strain sensor coupled to an integral bridge circuit. Atmospheric venting shall be through the signal cable, directly to atmosphere. Transmitters requiring separate, sealed, expansion breathing systems shall not be accepted. Electrical connection shall be 2 wire, 4-20 madc, and shall be reverse polarity and surge protected.

Accuracy shall be 0.6 percent of full scale. Full scale range shall be 0 to 14 feet (or as shown on the plans). Temperature compensated range shall be -20 to 122 degrees f., maximum operating temperature shall be -40 to 176 degrees f.

- B. Float Switches (Back-up Operation) Float switch shall be steel tube mercury design sealed in a solid polypropylene float. Float shall be leak-proof and corrosion resistant. Power cord shall be 2 conductor #16 flexible cord type SJOW-A water and oil resistant, 300 volt. Switch rating shall be 2 amps at 115 or 230 volt ac. Float switch operating temperatures to 160° F. Provide floats and support brackets as required and shown on the drawings.
- C. Local Pump Disconnects Local disconnects shall be supplied and installed on the exterior of the prefabricated building by the building manufacturer. There shall be a local disconnect dedicated for each pump. The local disconnects shall be rated for outdoor use.

#### AUTOMATIC TRANSFER SWITCH

Install low voltage automatic transfer switch having the ratings, features and accessories as specified herein and as shown on the drawings.

All transfer switches shall bear the UL label. The transfer switch shall automatically transfer its load circuit to an emergency or alternate power supply upon failure of its normal or preferred source. The voltage rating of the transfer switch shall be no less than the system voltage rating.

The continuous current rating of the transfer switch shall be no less than the maximum continuous current requirements of the system. The transfer switch shall be 100% equipment rated for continuous duty.

#### BUILDING LIGHTING

Interior and exterior lighting shall be mounted on the building prior to delivery to the jobsite. The exterior light shall be rated for outdoor installation, minimum 70 watt and contain a photocell for automatic operation. The interior shall be as shown on the plans. They shall be dust-resistant fluorescent fixtures rated for wet location. There shall be two 48" lamps per ballast rated 40 watt. Interior and exterior light fixtures shall be as manufactured by Lumapro, Lithonia or equal.

#### SMOKE ALARM

A smoke detector unit shall be mounted in the building prior to delivery to the jobsite. The smoke alarm shall be as manufactured by Kidde. The unit shall be a model 3KN56 rated 120 Volt, 1 phase. The unit shall be supplied with a relay power supply module for alarm interconnectability. This alarm accessory shall be model 3KN55.

#### BUILDING HVAC UNIT

A wall mount HVAC unit shall be mounted on the building prior to delivery to the jobsite. The unit shall be a model WA121-A05 rated 230 volt, 1 phase. A thermostat shall be mounted on the interior of the control building for control of the HVAC unit.

#### STAND-BY GENERATOR:

A stand-by generator set, consisting of the components listed below, all assembled and tested as a complete unit by the set manufacturer shall be furnished and installed. The unit shall be rated 125 KW continuous, 125 KW/ 156.3 KVA standby and output shall be 460 volts connected for 3 phase, 4 wire, 60 hertz, at .8 power factor, based on the power utility availability. The generator shall be installed outside on a concrete foundation.

The stand-by generator system shall be prototype tested, factory built, production tested, site tested, and incorporate the latest feature in commercial design. The equipment supplied shall be of new and current production and meet the requirements of the National Electrical Code, along with all applicable local codes and regulations.

- A. Engine. The engine shall be liquid cooled with v-belt driven water pump circulating 50% glycol, 50% water coolant through a radiator with pusher fan system, and shall develop 417 cu-in at 1800 rpm, under full load. The engine shall be equipped with remote-controlled positive engaging electric starter system. Positive pressure oiling lubrication system with oil filter, injectors, or carburetor for specified fuel, battery recharging alternator with automatic static voltage regulator, cooling thermostat; an electronic speed governor with maximum droop not to exceed 5% at full load. In addition, engine will be equipped with high temperature, low oil pressure, low coolant and overspeed safety shutdowns latch off until manually reset. A dry type air cleaner shall be furnished.
- B. Fuel. The fuel shall be Diesel and of a 24 hour capacity.
- C. Exhaust. The exhaust system shall include a critical type muffler sized so that back pressure does not exceed the engine manufacturer's recommendation when installed.

- D. Generator. There shall be provided a salient-pole, revolving field, open drip-proof, synchronous, alternating current generator with brushless exciter and static automatic silicon controlled rectifier voltage regulator, with minimum adjustment rate of 5%. Unit shall be of single bearing construction, directly connected to the engine by a semi-flexible steel drive disc. The stator and the armature shall be laminated silicon steel, and all windings shall be vacuum impregnated with class h insulating varnish and baked.

The units shall have a centrifugal blower to force air through the generator which is to operate at 105 degrees centigrade continuous rated temperature rise. Insulation shall be Class H. Temperature rise shall not exceed NEMA MGI-22.40 at the standby rating.

Generator unit shall be of the 3 phase, 12 lead broad range re-connectable and shall have a transient overload capacity of 300% of rated KVA at low power factor for motor starting. Voltage change shall not exceed 12% on application or removal of full load with two cycle recovery. Maximum voltage variation shall not exceed plus or minus 2%.

- E. Controller. A set-mounted controller capable of facing right, left, or rear shall be vibration isolated on the generator enclosure. The controller shall be capable of being remote mounted. The micro-processor control board shall be moisture proof and capable of operation from -40 °C to 85 °C. Relays will only be acceptable in high-current circuits.

Circuitry shall be capable of plug-in design for quick replacement. Controller shall be equipped to accept a plug-in device capable of allowing maintenance personnel to test controller performance without operating the engine.

The control panel shall include equipment for: voltage regulation and engine control, field excitation protection; over-cranking protection; terminal board for remote control connections; oil pressure gauge; coolant temperature gauge; static regulated battery charging alternator with battery charging ammeter; safety shutdown for low oil pressure and high coolant temperature, low coolant level, over-speed with failure indicators; an output junction box for power connections; voltmeter; ammeter and meter transfer switch, frequency meter, hour meter and a local/off remote switch shall be furnished.

In addition, the controller shall include:

1. Fused DC circuit
2. Complete two-wire start/stop control which shall operate on closure of a remote contact.
3. Speed sensing and a second independent starter motor disengagement systems shall protect against starter engagement with a moving flywheel. Battery charging alternator voltage will not be acceptable for this purpose.
4. The starting system shall be designed for restarting in the event of a false engine start, by permitting the engine to completely stop and then re-engage the starter.
5. Cranking cyler with 15 second ON and OFF cranking periods.
6. Over-crank protection designed to open the cranking circuit after 75 seconds if the engine fails to start.
7. Circuitry to shut down the engine when signals for high coolant temperature, low coolant level, low oil pressure, or over-speed are received.
8. Engine cool down timer factory set at 5 minutes to permit unloaded running of the standby set after transfer of the load to normal.

9. Three (3) position (Automatic - OFF - TEST) selector switch. In the TEST position, the engine shall start and run regardless of the position of the remote starting contact. In the Automatic position, the engine shall start when contacts in the remote control circuit close and stop 5 minutes after those contacts open. In the OFF position, the engine shall not start even though the remote start contacts close. This position shall also provide for immediate shutdown in case of an emergency. Reset of any faults shall also be accomplished by putting the switch to the OFF position.
10. Indicating lights to signal:
  - a. Not-in-Auto Overcrank
  - b. Emergency
  - c. High Engine Temperature
  - d. Overspeed
  - e. Low Oil Pressure
  - f. Air Damper
  - g. Battery Charger Malfunction
  - h. Low Battery Voltage
  - i. Low Fuel
  - j. Auxiliary Pre-alarm
  - k. Auxiliary Fault
  - l. System Ready
11. Test button for indicating lights.
12. Alarm Horn with silencer switch per NFPA 110.
13. Terminals shall be provided for each signal (see above), plus terminals for common fault and common pre-alarm.

F. Instrument Panel. The instrumentation panel shall include the following:

1. Dual range voltmeter 3-1/2" inch, +/- 2% accuracy
2. Dual range ammeter 3-1/2" inch, +/- 2% accuracy
3. Voltmeter- ammeter phase selector switch.
4. Lights to indicate high or low meter scale.
5. Direct reading pointer-type frequency meter 3-1/2", 0.5% accuracy, 45 to 65 Hz scale.
6. Panel illuminating lights.
7. Battery charging voltmeter.
8. Coolant temperature gauge.
9. Oil pressure gauge.
10. Running time meter.
11. Voltage adjust rheostat.

G. System Accessories. In addition to the above specifications, the system shall be equipped with the following accessories. The accessories shall be installed, unless noted otherwise.

1. Weather-Protective Sound Attenuated Enclosure
2. Critical Silencer
3. Tail Pipe & Rain Cap
4. Block Heater
5. Flex Fuel Lines
6. Electronic or Mechanical Governor
7. Molded-Case Line Output Breaker
8. Common Failure Relay
9. Generator Run Relay

10. Battery & Rack

11. Oil Drain Extension

12. Emergency Stop

13. Automatic cycle cranking to allow three (3) fifteen second cranking cycles with fifteen second rest periods between cranking attempts. Cranking shall lock out and light an indicator after three (3) attempts. It shall reset automatically if engine starts or manually if engine does not start after three (3) attempts. No thermal devices will be permitted.

14. Exerciser timer with load/no load switch with minimum operation of 30 minutes once per week.

15. Regulated, constant voltage, static, temperature compensated, battery charger rated 10 amps minimum D.C. Charging ammeter and voltmeter; and battery charger shall taper to trickle for fully charged battery, and shall be automatically disconnected from the battery during cranking.

H. Unit Construction. The entire unit with all listed accessories, including system enclosure and control panel shall be assembled and mounted on a steel frame base of rigid construction. The base shall include a unit mounted battery rack, complete with batteries for proper operation. The unit manufacture shall provide properly sized vibration isolators for placement between the base and engine/generator.

I. Testing. Prior to shipment, the generator set manufacturer shall set up and test the generator and shall certify that the unit has performed satisfactorily at full rated load at .8 power factor. After installation system shall be tested with maximum available site load.

#### WARRANTY

The manufacturer shall warrant his product to be free from defects in workmanship for a period of one (1) year from date of completion. Warranties and guarantees by the suppliers of various components in lieu of a single source responsibility by the contractor shall not be accepted. The manufacturer shall be solely responsible for the warranty. In the event a component failure to perform as specified or is proven defective in service during the warranty period, excluding items of supply normally expended during operation, the manufacturer shall provide a replacement part without cost to the owner. This warranty shall be valid only if the product is installed, serviced, and operated under normal conditions, in accordance with the manufacturer instructions.

The cost for furnishing and installation of the LIFT STATION complete including and all incidental work necessary for its installation will be paid for at the LUMP SUM contract unit price bid per LIFT STATION.

#### **DISCHARGE MANHOLE paid for as MANHOLE, SPECIAL, FRAME AND LID**

This work shall consist of the furnishing and the installation of a DISCHARGE MANHOLE adjacent to the lift station at the location indicated in the contract drawings as described below or as directed by the Engineer.

The Contractor is advised to review the site and familiarize himself with the soil conditions prior to finalizing his bid for this portion of the work. No additional compensation shall be allowed for

changes in the construction method due to ground conditions that may exist at the time of construction.

The Contractor shall take all necessary precautions to prevent the undermining of the railroad tracks, roadways, structures, embankments, or property including the utilization of trench boxes, sheeting, etc. to properly maintain the excavation such that underlying soils between the pavement edge etc. and jacking limits are prevented from entering the excavation. In the event that settlement or any other damage occurs to adjacent roadways railroad tracks, and property or structures between the time the installation is completed and the end of the contract bond guaranty period, the Contractor shall be fully responsible for any repairs deemed necessary by the Engineer.

Submit manufacturer's data and details of following items for approval:

1. Shop drawings of manhole sections, base units and construction details, including reinforcement, jointing methods, materials and dimensions.
2. Summary of criteria used in manhole design including, as minimum, material properties, loadings, load combinations, and dimensions assumed. Include certification from manufacturer that precast manhole design is in full accordance with ASTM C 478 and design criteria.
3. Frames, grates, rings, and covers
4. Materials to be used for pipe connections at manhole walls

#### PRECAST CONCRETE MANHOLES

- A. Provide manhole sections, base sections, and related components conforming to ASTM C 478. Provide base riser section with integral floors, unless shown otherwise. Provide interlocking adjustment rings which are standard components of manufacturer of manhole sections. Mark date of manufacture and name or trademark of manufacturer on inside of barrel.
- B. Construct barrels for precast manholes from standard reinforced concrete manhole sections of diameter indicated on Drawings. Use various lengths of manhole sections in combination to provide correct height with fewest joints. Design wall sections for depth and loading conditions with minimum thickness of 11-Inches. Base section shall have minimum thickness of 12 -Inches under invert.
- C. Provide precast base sections with flat slab top precast sections.
- D. Provide access door precast into the flat slab top precast section. The angle frame floor access door shall be Model APT300 as manufactured by U.S.F. Fabrication, Inc. with the size being specified on the plans or approved equal.
  1. Covers: 1/4-inch (6.4mm) aluminum diamond plate covers reinforced for 300 psf (1465 kg/m<sup>2</sup>) live load. Equipped with cast aluminum flush lifting handle and 316 stainless steel hold-open arms with red vinyl grips that automatically keep the covers in their open/upright positions.
  2. Frame: Extruded aluminum with integral anchor flange and door seat on all four sides.
  3. Hardware: 316 stainless steel hinges and tamper resistant bolts/lock nuts.
  4. Security: Aluminum staple protrudes through cover for user supplied padlock.

5. The access opening shall have a permanently installed fall through prevention grate system that provides continuous safety assurance in both its closed and open positions. When closed, the grate allows visibility for inspections and performance of limited maintenance below it. When open, the grate acts as an additional barrier to the access door opening.
- E. Design Loading Criteria: Manhole walls, transition slabs, cone tops, and manhole base slab shall be designed, by manufacturer, to requirements of ASTM C 478 for depth as shown on Drawings and to resist following loads.
1. Lateral soil pressure based on saturated soil conditions producing an at-rest equivalent fluid pressure of 100 pcf
  2. Internal liquid pressure based on unit weight of 63 pcf
  3. Dead load of manhole sections fully supported by transition and base slabs
- F. Design: Manhole walls, transition slabs, cone tops, and manhole base slab shall be designed according to requirements of ASTM C 478 and following:
1. Design additional reinforcing steel to transfer stresses at openings.
  2. Wall loading conditions:
    - a. Saturated soil pressure acting on empty manhole
    - b. Manhole filled with liquid to mid-height from invert to cover, with no balancing external soil pressure
  3. Minimum clear distance between two wall penetrations shall be 12 inches or half diameter of smaller penetration, whichever is greater
- G. Provide joints between manhole sections with o-ring gaskets conforming to ASTM C 443.
- H. When base is cast monolithic with portion of vertical section, extend reinforcing in vertical section into base.
- I. Precast Concrete Base: Suitable cutouts or holes to receive pipe and connections. Lowest edge of holes or cutouts: For water line manhole, no less than 6 inches above inside surface of floor of base.
- J. Provide joints between sections with o-ring gaskets conforming to ASTM C 443.
- K. When base is cast monolithic with portion of vertical section, extend reinforcing in vertical section into base.
- L. Precast Concrete Base: Provide suitable cutouts or holes to receive pipe and connections. Lowest edge of holes or cutouts: For water line manhole, no less than 6 inches above inside surface of floor of base.
- M. CONCRETE

1. Concrete Fillets: Use 5 sack premix (bag) concrete or Class A concrete for inverts not integrally formed with manhole base, with minimum compressive strength of 4000 psi. Provide steel reinforcement for fillets.
  2. Aggregate Foundation: Provide 12-inches of compacted crushed stone under base section.
- N. MORTAR
1. Conform to requirements of ASTM C 270, Type S using Portland Cement.
- O. MISCELLANEOUS METALS
1. Provide cast-iron frames, rings, and covers conforming to requirements.
- P. PIPE CONNECTIONS TO MANHOLE
1. Storm Sewer Connections: Provide watertight connections in accordance with ASTM C 923.
- Q. VENT PIPES
1. Provide external vent pipes for manholes where indicated on Drawings.
- R. INSTALLATION
1. Verify that lines and grades are correct.
  2. Determine if sub grade, when scarified and recompacted, can be compacted to 95 percent of maximum Standard Proctor Density according to ASTM D 698 prior to placement of foundation material and base section. When proper density is not reached, moisture condition sub grade until that density is reached or treat as unstable sub grade.
- S. PLACEMENT
1. Install precast manhole to conform to locations and dimensions shown on Drawings.
- T. MANHOLE BASE SECTIONS AND FOUNDATIONS
1. Place precast base on 12 inch thick (minimum) foundation of crushed stone.
- U. PRECAST MANHOLE SECTIONS
1. Install sections, joints, and gaskets in accordance with manufacturer's printed recommendations.
  2. Install precast adjustment rings above tops of cones or flat-top sections as required to adjust finished elevation and to support manhole frame.
  3. Seal any lifting holes with non-shrink grout.
- V. BACKFILL
1. Place and compact backfill materials in area of excavation surrounding manholes in accordance with requirements of Standard Specifications.
  2. Utilities. Provide embedment zone backfill material, as specified for adjacent utilities, from manhole foundation up to an elevation 12 inches over each pipe connected to

manhole. Provide trench zone backfill, as specified for adjacent utilities, above embedment zone backfill.

#### PIPING

Piping within the discharge manhole shall be fabricated Schedule 40 steel pipe and shall terminate with a flange outside the basin wall for connection to valves in the discharge manhole. Discharge shall be plain steel pipe. Piping shall be sandblasted on the outside to remove scale, weld, slag, rust, etc., before coating. Piping shall be coated with a "polyurea" coating. The coating shall be a minimum of 12-14 mils thick.

The cost of furnishing and the installation of the discharge manhole, and all incidental work necessary for its installation will be paid for at the contract unit price bid per MANHOLE, SPECIAL, FRAME AND LID.

#### **CARBON STEEL FORCE MAIN, 12"**

This work shall consist of the furnishing and the installation of the CARBON STEEL FORCE MAIN, 12" at the location indicated in the contract drawings.

Piping connecting the lift station and discharge manhole shall be fabricated from Schedule 40 steel pipe. Piping shall be sandblasted on the outside to remove scale, weld, slag, rust, etc., before coating. Piping shall be coated with a "polyurea" coating. The coating shall be a minimum of 12-14 mils thick.

The cost of furnishing and the installation of the carbon steel force main, and all incidental work necessary for its installation will be paid for at the contract unit price bid per CARBON STEEL FORCE MAIN, 12"

#### **CHECK VALVES 12"**

This work shall consist of the furnishing and the installation of the CHECK VALVES 12" at the location indicated in the contract drawings.

The check valves shall be installed within the discharge manhole..

- A. Check Valves: Valves shall be pressure rated at 150 psi, of the cushioned swing type. Valves shall be cast iron or cast steel bodies, bronze or stainless steel seat ring, noncorrosive shaft for attachment of weight and lever, and complete noncorrosive cushion chamber.
  1. Valve must be tight seating and shall operate without hammer or shock. Seat ring shall be renewable and held in place by a threaded joint.

2. Cushion chamber shall be attached to side of valve body externally and constructed with a piston operating in a chamber that will permit valve to be operated without hammering. Cushioning shall be by air, and cushion chamber shall be so arranged that closing speed will be adjustable.
3. Valve disc shall be cast iron or cast steel and shall be suspended from a noncorrosive shaft which will pass through a stuffing box and connect to cushion chamber outside valve.

The cost of furnishing and the installation of the check valves, and all incidental work necessary for its installation will be paid for at the contract unit price bid per CHECK VALVES 12"

## **IDOT REQUIRED SPECIAL PROVISIONS FOR ROADWAY LIGHTING**

The contractor shall comply to the latest IDOT "Standard Specifications for Road and Bridge Construction" for Roadway Lighting work except as amended as follows:

### **General Electrical Requirements**

Revised by Robinson Engineering

Add the following to Article 801 of the Standard Specifications:

"Maintenance transfer and Preconstruction Inspection:

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

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

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

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side.. The request for the cable locations and marking shall be made at the same time the

request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

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

Revise the 6<sup>th</sup> paragraph of Article 801.05(a) of the Standard Specifications to read:

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

Revise Article 801.11(a) of the Standard Specifications to read:

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

Add the following to Section 801.11(a) of the Standard Specifications:

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

not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.”

Add the following to Section 801 of the Standard Specifications:

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

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

Revise the 2<sup>nd</sup> and 3<sup>rd</sup> sentences of the second paragraph of Article 801.02 of the Standard Specifications to read:

“Unless otherwise indicated, materials and equipment shall bear the UL label, or an approved equivalent, whenever such labeling is available for the type of material or equipment being furnished.”

## **UNDERGROUND RACEWAYS**

Effective: January 1, 2007

Revise Article 810.03 of the Standard Specifications to read:

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

Add the following to Article 810.03 of the Standard Specifications:

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

Add the following to Article 810.03 of the Standard Specifications:

"All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12") or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped. The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap. The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125") thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.

Add the following to Article 810.03(c) of the Standard Specifications:

"Coilable non-metallic conduit shall be machine straightened to remove the longitudinal curvature caused by coiling the conduit onto reels prior to installing in trench, encasing in concrete or embedding in structure. The straightening shall not deform the cross-section of the conduit such that any two measured outside diameters, each from any location and at any orientation around the longitudinal axis along the conduit differ by more than 6 mm (0.25")." The longitudinal axis of the straightened conduit shall not deviate by more than 20 mm per meter (0.25" per foot) from a straight line. The HDPE and straightening mechanism manufacturer operating temperatures shall be followed.

## **EXPOSED RACEWAYS**

Effective: January 1, 2007

Revise the following to Article 811 .03(a) of the Standard Specifications to read:

"General. Rigid metal conduit installation shall be according to Article 810.03(a). Conduits terminating in junction and pull boxes shall be terminated with insulated and gasketed watertight threaded NEMA 4X conduit hubs. The hubs shall be Listed under UL 514B. The insulated throat shall be rated up to 105° C. When PVC coated conduit is utilized, the aforementioned hubs shall also be PVC coated."

Add the first paragraph of Article 811 .03(b) of the Standard Specifications:

"Where PVC coated conduit is utilized, all conduit fittings, couplings and clamps shall be PVC coated. All other mounting hardware and appurtenances shall be stainless steel."

"The personnel installing the PVC coated conduit must be trained and certified by the PVC coated conduit Manufacturer or Manufacturer's representative to install PVC coated conduit. Documentation demonstrating this requirement must be submitted for review and approval."

Revise Article 1088.01(a) of the Standard Specifications to read:

“Couplings and fittings shall meet ANSI Standard C80.5 and U.L. Standard 6. Elbows and nipples shall conform to the specifications for conduit. All fittings and couplings for rigid conduit shall be of the threaded type. All conduit hubs shall be gasketed and watertight with an integral O-ring seal.”

Revise Article 1088.01 (a)(3) of the Standard Specifications to read:

a. PVC Coated Steel Conduit. The PVC coated rigid metal conduit shall be UL Listed (UL 6). The PVC coating must have been investigated by UL as providing the primary corrosion protection for the rigid metal conduit. Ferrous fittings for general service locations shall be UL Listed with PVC as the primary corrosion protection. Hazardous location fittings, prior to plastic coating shall be UL listed.

b. The PVC coating shall have the following characteristics:

Hardness:	85+ Shore A Durometer
Dielectric Strength:	400V/mil @ 60 Hz
Aging:	1,000 Hours Atlas Weatherometer

Temperature	The PVC compound shall conform at 0°F. to Federal Specifications PL-406b, Method 2051, Amendment
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Elongation:	1 of 25 September 1952 (ASTM D746) 200%
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c. The exterior and interior galvanized conduit surface shall be chemically treated to enhance PVC coating adhesion and shall also be coated with a primer before the PVC coating to ensure a bond between the zinc substrate and the PVC coating. The bond strength created shall be greater than the tensile strength of the plastic coating.

d. The nominal thickness of the PVC coating shall be 1 mm (40 mils). The PVC exterior and urethane interior coatings applied to the conduit shall afford sufficient flexibility to permit field bending without cracking or flaking at temperatures above -1°C (30°F).

e. An interior urethane coating shall be uniformly and consistently applied to the interior of all conduit and fittings. This internal coating shall be a nominal 2 mil thickness. The interior coating shall be applied in a manner so there are no runs, drips, or pinholes at any point. The coating shall not peel, flake, or chip off after a cut is made in the conduit or a scratch is made in the coating.

f. Conduit bodies shall have a tongue-in-groove gasket for maximum sealing capability. The design shall incorporate a positive placement feature to assure proper installation. Certified test results confirming seal performance at 15 psig (positive) and 25 in. of

mercury (vacuum) for 72 hours shall be submitted for review when requested by the engineer.

- g. The PVC conduit shall pass the following tests:

Exterior PVC Bond test RN1:

Two parallel cuts 13 mm (1/2 inch) apart and 40 mm (1 1/2 inches) in length shall be made with a sharp knife along the longitudinal axis. A third cut shall be made perpendicular to and crossing the longitudinal cuts at one end. The knife shall then be worked under the PVC coating for 13 mm (1/2 inch) to free the coating from the metal.

Using pliers, the freed PVC tab shall be pulled with a force applied vertically and away from the conduit. The PVC tab shall tear rather than cause any additional PVC coating to separate from the substrate.

Boil Test:

Acceptable conduit coating bonds (exterior and interior) shall be confirmed if there is no disbondment after a minimum average of 200 hours in boiling water or exposure to steam vapor at one atmosphere. Certified test results from an independent testing laboratory shall be submitted for review and approval. The RN1 Bond Test and the Standard Method for Measuring Adhesion by Tape Test shall be utilized.

Exterior Adhesion. In accordance with ASTM D870, a 6" length of conduit test specimen shall be placed in boiling water. The specimen shall be periodically removed, cooled to ambient temperature and immediately tested according to the bond test (RN 1). When the PVC coating separates from the substrate, the boil time to failure in hours shall be recorded.

Interior Adhesion. In accordance with ASTM D3359, a 6" conduit test specimen shall be cut in half longitudinally and placed in boiling water or directly above boiling water with the urethane surface facing down. The specimen shall be periodically removed, cooled to ambient temperature and tested in accordance with the Standard Method of Adhesion by Tape Test (ASTM D3359). When the coating disbonds, the time to failure in hours shall be recorded.

Heat/Humidity Test:

Acceptable conduit coating bonds shall be confirmed by a minimum average of 30 days in the Heat and Humidity Test. The RN1 Bond Test and the Standard Method for Measuring Adhesion by Tape Test shall be utilized.

Exterior Adhesion. In accordance with ASTM D1151, D1735, D2247 and D4585, conduit specimens shall be placed in a heat and humidity environment where the temperature is maintained at 150<sup>o</sup>F (66<sup>o</sup>C) and 95% relative humidity. The specimens shall be periodically removed and a bond test (RN1)

performed. When the PVC coating separates from the substrate, the exposure time to failure in days shall be recorded.

Interior Adhesion. In accordance with ASTM D3359, conduit specimens shall be placed in a heat and humidity environment where the temperature is maintained at 150°F (66°C) and 95% relative humidity. When the coating disbonds, the time to failure in hours shall be recorded.

Add the following to Article 1088.01(a)(4) of the Standard Specifications:

"All liquid tight flexible metal conduit fittings shall have an insulated throat to prevent abrasion of the conductors and shall have a captive sealing O-ring gasket. The fittings shall be listed under UL 514B. The insulated throat shall be rated up to 105° C."

Revise Article 811.05 of the Standard Specifications to read:

**"811.05 Basis of Payment.** This work will be paid for at the contract unit price per meter (foot) for **CONDUIT ATTACHED TO STRUCTURE, OF THE DIAMETER SPECIFIED, RIGID GALVANIZED STEEL** or **CONDUIT ATTACHED TO STRUCTURE, of the diameter specified, RIGID GALVANIZED STEEL, PVC COATED.**"

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

Effective: January 1, 2007

Revise the first sentence of Article 819.03(a) of the Standard Specifications to read:

"Trench. Trenches shall have a minimum depth of 30 in. (760 mm) or as otherwise indicated on the plans, and shall not exceed 12 in. (300 mm) in width without prior approval of the Engineer."

## **UNIT DUCT**

Effective: January 1, 2007

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

"The unit duct shall be installed at a minimum depth of 760 mm (30-inches) unless otherwise directed by the Engineer."

Revise Article 1088.01(c) to read:

"(c) Coilable Nonmetallic Conduit.

**General:**

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

The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.

The duct shall be UL Listed per 651-B for continuous length HDPE coiled conduit. The duct shall also comply with NEC Article 354.100 and 354.120.

Submittal information shall demonstrate compliance with the details of these requirements.

**Dimensions:**

Duct dimensions shall conform to the standards listed in ASTM D2447. Submittal information shall demonstrate compliance with these requirements.

Nominal Size		Nominal I.D.		Nominal O.D.		Minimum Wall	
mm	in	mm	in	mm	in	mm	in
31.75	1.25	35.05	1.38	42.16	1.66	3.556	0.140
			0		0	+0.51	+0.020
38.1	1.5	40.89	1.61	48.26	1.90	3.683	0.145
	0		0		0	+0.51	+0.020

Nominal Size		Pulled Tensile	
mm	In	N	lbs
31.75	1.25	3322	747
38.1	1.50	3972	893

**Marking:**

As specified in NEMA Standard Publication No. TC-7, the duct shall be clearly and durably marked at least every 3.05 meters (10 feet) with the material designation (HDPE for high density polyethylene), nominal size of the duct and the name and/or trademark of the manufacturer.

**Performance Tests:**

Polyethylene Duct testing procedures and test results shall meet the requirements of UL 651. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct. Duct crush test results shall meet or exceed the following requirements:

Duct Diameter		Min. force required to deform sample 50%	
mm	In	N	lbs
35	1.25	4937	1110
41	1.5	4559	1025

**WIRE AND CABLE**

Effective: January 1, 2007

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

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

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

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

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

“All conductors shall be stranded. Stranding meeting ASTM B 8, ICEA S-95-658/NEMA WC70 and UL Standard 44. Uncoated conductors meeting ASTM B3, ICEA S-95-658/NEMA WC70 and UL Standard 44.”

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

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

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

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

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

Aerial Electric Cable Properties

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

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

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

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

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

Revise Article 1066.04 to read:

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

Revise the second paragraph of Article 1066.05 to read:

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

Revise Article 1066.08 to read:

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

## LUMINAIRE

Revised by Robinson Engineering

Add the following to first paragraph of Article 1067(c) of the Standard Specifications:

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

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

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

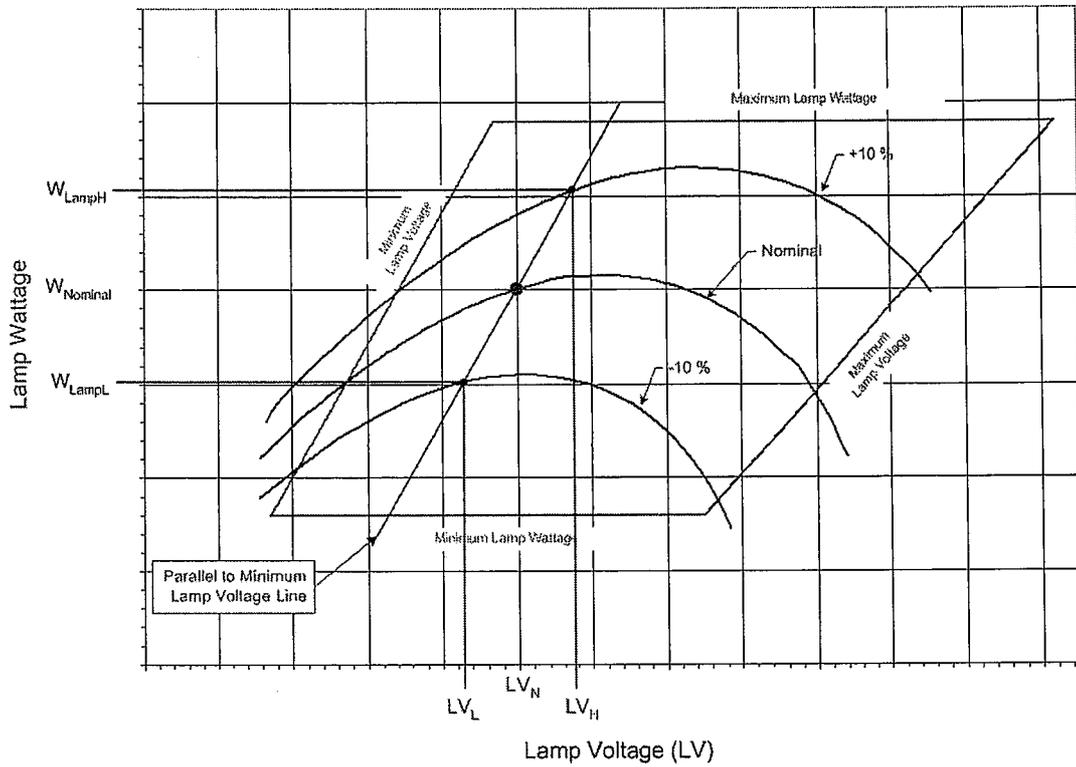
Revise Article 1067(e)(1) of the Standard Specifications to read:

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

<b>Nominal Ballast Wattage</b>	<b>Maximum Ballast Regulation</b>
750	25%
400	26%
310	26%
250	26%
150	24%
70	18%

For this measure, regulation shall be defined as the ratio of the lamp watt difference between the upper and lower operating curves to the nominal lamp watts; with the lamp watt difference taken within the ANSI trapezoid at the nominal lamp operating voltage point parallel to the minimum lamp volt line:

:



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

where:

$W_{LampH}$  = lamp watts at +10% line voltage when Lamp voltage = LV<sub>H</sub>

$W_{LampL}$  = lamp watts at -10% line voltage when lamp voltage = LV<sub>L</sub>

$W_{LampN}$  = lamp watts at nominal lamp operating voltage = LV<sub>N</sub>

Wattage	Nominal Lamp Voltage, LV <sub>N</sub>	LV <sub>L</sub>	LV <sub>H</sub>
750	120v	115v	125v
400	100v	95v	105v
310	100v	95v	105v
250	100v	95v	105v
150	55v	50v	60v
70	52v	47v	57v

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

Nominal Ballast	Maximum
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Wattage	Ballast Losses
750	14.0%
400	17.0%
310	19.0%
250	19.0%
150	26.0%
70	34.0%

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

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

where:

$W_{line}$  = line watts at nominal system voltage

$W_{lamp}$  = lamp watts at nominal system voltage

Ballast output to lamp. At nominal system voltage and nominal lamp voltage, the ballast shall deliver lamp wattage with the variation specified in the following table. Example: For a 400w luminaire, the ballast shall deliver 400 watts  $\pm 2.5\%$  at a lamp voltage of 100v for the nominal system voltage of 240v which is the range of 390w to 410w.

Nominal Ballast Wattage	Output to lamp variation
750	$\pm 2.0\%$
400	$\pm 2.5\%$
310	$\pm 2.5\%$
250	$\pm 4.0\%$
150	$\pm 4.0\%$
70	$\pm 4.0\%$

Ballast output over lamp life. Over the life of the lamp the ballast shall produce average output wattage of the nominal lamp rating as specified in the following table. Lamp wattage readings shall be taken at 5-volt increments throughout the ballast trapezoid. Reading shall begin at the lamp voltage ( $L_V$ ) specified in the table and continue at 5 volt increments until the right side of the trapezoid is reached. The lamp wattage values shall then be averaged and shall be within the specified value of the nominal ballast rating. Submittal documents shall include a tabulation of the lamp wattage vs. lamp voltage readings. Example: For a 400w luminaire, the averaged lamp wattage reading shall not exceed the range of  $\pm 3\%$  which is 388 to 412 watts"

Nominal Ballast Wattage	LV Readings begin at	Maximum Wattage Variation
750	110v	± 3%
400	90v	± 3%
310	90v	± 3%
250	90v	± 4%
150	50v	± 4%
70	45v	± 5%

Add the following to Article 1067.02(a)(1) of the Standard Specifications:

“The beam of maximum candlepower for luminaires specified or shown to have a ‘medium’ distribution shall be at 70 degrees from the horizontal ± 2.5 degrees. Submittal information shall identify the angle.”

Revise Article 1067.06(a)(1) of the Standard Specifications to read:

“The lamps shall be of the clear type and shall have a color of 1900° to 2200° Kelvin.”

Revise Article 1067.06(a)(4) of the Standard Specifications to read:

Lamp Wattage	Initial Lumens	Mean Lumens	Rated Life (Hours)	Lamp Voltage
50	4,000	3,600	24,000	52
70	6,300	5,450	24,000	52
100	9,400	8,000	24,000	55
150	15,800	13,800	24,000	55
200	21,400	19,260	24,000	100
250	27,000	24,300	24,000	100
310	37,000	33,300	24,000	100
400	50,000	45,000	24,000	100
750	105,000	94,500	24,000	120

## **FOUNDATIONS**

### Light Pole Foundation:

Light Pole Foundation and Bollard foundation:

Ground rods for these foundations shall not be paid for separately but shall be included in the cost of the foundations for the items listed above.

## **MAINTENANCE OF LIGHTING SYSTEMS**

Revised by Robinson Engineering

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 Village of Bridgeview. These responsibilities shall include the maintenance of lighting units, cable runs and lighting controls. In the case of a pole knockdown 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.

## **Lighting System Staging**

Both the North and South sides of 71<sup>st</sup> Street must remain lit at all times during the construction of this project according to Article 801.11 (a) of the Standard Specifications' with the exception of the three light standards that are to be removed in the south parkway East of the Railroad Crossing during construction.

## **Basis of Payment**

This work shall include the maintenance transfer from the Village of Bridgeview to the Contractor **ALL** circuits in the two cabinets, not only the circuits affected by the work in this contract. This includes the disconnection of various parts of the underground electrical systems east of the CSXT / IHB Railroad and the disconnection of the existing underground system and the installation of a temporary aerial cable system west of the CSXT / IHB Railroad. This work shall be paid at the contract unit price per **CALENDAR MONTH** of **MAINTENANCE OF LIGHTING SYSTEM**.

### **EXPLORATION TRENCH, 72" DEPTH**

This work shall consist of the exploratory digging at various locations as directed by the engineer for the purpose of identifying the depths or locations of existing underground utilities within the construction limits of the project. For this contract, the words "underground utilities" shall be extended to include water services, storm and sanitary sewers, gas lines, IBT cable and ductworks and other utilities not listed here. Areas shall be backfilled with excavated material in accordance with Section 213, Section 212 and Article 202.03 of the Standard Specifications. Any damages to utilities that occur during exploration trenching shall be repaired or replaced at no cost to the contract.

All work will be paid for at the contract unit price per **FOOT** for **EXPLORATION TRENCH, 72" DEPTH** which price shall be full compensation for all equipment, labor and materials need to backfill the trench and the replacement of broken "underground utilities", regardless of the depth that the trench is excavated to. Contractor shall notify J.U.L.I.E. at least 48 hours before start of trenching operation.

### **AERIAL CABLE, 3-1/C NO. 6 WITH MESSENGER WIRE**

#### 1. DESCRIPTION:

This work shall comply with the applicable sections of Articles 818 and 1066 of the Standard Specifications for Road and Bridge Construction adopted January 1, 2007, and as stated previously in these Special Provisions.

The specific work involves the installation of the aerial cable as shown on the contract plans or as directed by the engineer and the connection to the light poles affected in order to maintain the system through the construction operation. Aerial cable will be utilized west of the CSXT / IHB Railroad in the south parkway of 71<sup>st</sup> Street beginning at Light Standard 2C7 and continuing east to Light Standards 2D7, 2C8 and terminating at Light Standard 2D8.

#### 2. BASIS OF PAYMENT:

This work shall be paid for at the contract unit price per **FOOT** for **AERIAL CABLE, 3-1/C NO. 6 WITH MESSENGER WIRE**

which shall be payment in full for the installation and connection to the existing lighting system as specified herein.

## **RELOCATE EXISTING LIGHT POLE**

### 1. DESCRIPTION

This work shall comply with the applicable sections of Article 830 of the Standard Specifications for Road and Bridge Construction adopted January 1, 2007, and as stated previously in these Special Provisions.

The specific work involves the installation of the existing 71<sup>st</sup> Street Lights Street that were stored near the site of construction at the Village of Bridgeview Water Department Yard, 7100 S. Thomas Avenue, of the aluminum light pole, mast arm, luminaire and breakaway device transformer base as shown on the contract drawings, as verified by the preconstruction inspection and inventory, as herein specified and as directed by the engineer.

### 2. CONSTRUCTION REQUIREMENTS:

The light standards and components shall be inspected, returned to the site, and installed on the new foundations as shown on the plans or as directed by the engineer. Connection to the existing lighting system shall also be included in this item.

### 3. BASIS OF PAYMENT:

This work will be paid for at the contract unit per **EACH** for **RELOCATE EXISTING LIGHT POLE**, which shall be payment in full for the transportation of the poles from storage to the site, installation of the poles on the new foundations, connection to the existing lighting systems, and all labor and equipment necessary to complete the work as herein described or as directed by the engineer.

## **REMOVAL OF LIGHTING UNIT, SALVAGE**

### 1. DESCRIPTION:

This work shall consist of the disconnecting, removing, dismantling, and delivery to the Village of Bridgeview Water Department Yard, 7100 S. Thomas Avenue, of the aluminum light pole, mast arm, luminaire and breakaway device transformer base as shown on the contract drawings, as verified by the preconstruction inspection and inventory, as herein specified and as directed by the engineer.

### 2. CONSTRUCTION REQUIREMENTS:

No removal work will be permitted without the approval from the engineer.

- 2.2 The concrete foundations shall be removed in accordance with Section 842 of the Standard Specifications for Road and Bridge Construction. All work, labor and materials required for this partial removal shall be paid for at the contract unit price **EACH** for **REMOVAL OF POLE FOUNDATION**.
  - 2.3 Aerial cable, unit duct, circuit cables and conductors, and all associated hardware shall become the property of the Contractor and shall be disposed of off the project site.
  - 2.4 Pole removal shall start as soon as the Maintenance Transfer is completed. Before delivery, the removed luminaires shall be properly cleaned and individually packed in boxes. The boxes shall be labeled indicating the technical details of each boxed luminaire.
  - 2.5 The Village of Bridgeview Public Work Department should be notified twenty-four to forty-eight hours before the delivery of the removed light standards, to insure that Village Personnel will be available at this site. **AN INSPECTION AND APPROVAL BY THE ENGINEER MUST TAKE PLACE** when the Lighting Unit is delivered to the Water Department Yard.
3. BASIS OF PAYMENT:
- This item shall be paid for at the contract unit price **EACH** for **REMOVAL OF LIGHTING UNIT, SALVAGE**, which shall be payment in full for the work specified herein.

## REMOVAL OF POLE FOUNDATION

### 1. DESCRIPTION:

This work shall consist of the removal and disposal of existing light pole foundations, and shall also include the backfilling of the excavated areas. This work shall be done in accordance with Article 842.04 of the Standard Specifications, except as modified herein. **Concrete foundations shall be removed in their entirety below grade** with removed material disposed of off-site. The removal shall extend deeper where required to facilitate roadway construction at no additional cost. Underground conduits and cables shall be separated from the foundation at 2.5 feet below grade and shall be abandoned or re-used as indicated. The space caused by the removal of the foundations shall be backfilled with trench backfill in accordance with Section 208 of the Standard Specifications. The cost of backfilling will not be paid for separately but shall be considered incidental to the cost of the foundation removal. The foundations requiring removal are located east of the CSXT / IHB Railroad in the south parkway of 71<sup>st</sup> Street beginning at Light Standard 1D3 and continuing east to 1C3 and 1D2.

### 2. BASIS OF PAYMENT:

This work shall be paid for at the contract unit price per **EACH** for **REMOVAL OF POLE FOUNDATION** which shall be payment in full for the removal and disposal of foundations as specified herein.

## **REMOVE AND REINSTALL LUMINAIRE**

### 1. DESCRIPTION:

This work shall comply with the applicable sections of Article 821 of the Standard Specifications for Road and Bridge Construction adopted January 1, 2007, or as directed by the engineer.

The luminaires from the existing street lights shall be removed and installed on the temporary wooden poles during construction.

Once construction is completed the luminaires shall be removed from the temporary wood light poles and delivered to the Village of Bridgeview Water Department Yard, 7100 S. Thomas Avenue, for their storage.

### 2. BASIS OF PAYMENT:

This work will be paid for at the contract unit price per **EACH** for **REMOVE AND REINSTALL LUMINAIRE**, which shall be payment in full for all the work as herein specified or as directed by the engineer.

## **RELOCATE EXISTING LIGHTING UNIT, SPECIAL**

### 1. DESCRIPTION:

This work shall comply with the applicable sections of Division 800 of the Standard Specifications for Road and Bridge Construction adopted January 1, 2007, or as directed by the engineer. No work shall begin until after a meeting on-site with the PepsiCo Facility Engineer, the Project Resident Engineer, and the Contractor. The purpose of the meeting will be to discern the existing conditions and to finalize the new locations for the relocated bollards. The existing system shall be energized to insure that all of the bollards to be relocated are operational.

### 2. CONSTRUCTION REQUIREMENTS:

- 2.1 This work shall first consist of the disconnection from the existing system of the five existing bollards to be relocated, removal of the bollards from the existing

foundations, and temporary storage at the PepsiCo facility, removal of the bollard foundations two feet below existing grade, and removal of the existing underground wiring (no salvage). The contractor shall be responsible for contacting the PepsiCo facility engineer both before disconnecting the bollards from the system (to insure the system is not energized) and after the disconnection has been completed so that the remaining system bollards may be re-energized during construction.

2.2 The work shall continue with the reinstallation of new foundations with new anchor bolts at a minimum depth of 42", ground rods at each foundation, installation of new conductors in unit duct or conduit, and reconnection to the existing system. The contractor shall be responsible for contacting the PepsiCo facility engineer prior to the reconnection to insure that the system is not energized, and after the reconnection so that the entire system can be reenergized.

2.3 A final inspection will be made after the relocated system is energized to insure the system is working properly.

### 3. BASIS OF PAYMENT:

This work will be paid for at the contract unit price per **EACH** for **RELOCATE EXISTING LIGHTING UNIT, SPECIAL**, which shall be payment in full for all the labor, materials and equipment necessary to complete the work as herein specified or as directed by the engineer.

#### **UNIT DUCT, 600V, 6-1/C NO. 6, 1/C NO. 8 GROUND, (XLP-TYPE USE), 1 1/2" DIA., POLYETHYLENE**

##### 1. DESCRIPTION:

This work shall consist of the installation of the Unit Duct as shown on the plans or as directed by the engineer. The use of equipment specifically designed to provide an underground raceway for the duct by boring the required distances between poles, and then pulling the unit duct through the newly created raceway is required.

##### 2. MATERIALS:

The boring equipment shall have the capabilities of boring the required distances as shown on the plans or as directed by the engineer.

The unit duct and conductors shall comply with the requirements of Section 816 of the Standard Specifications for Road and Bridge Construction (adopted January 1, 2007), and shall be paid for under a separate pay item.

In areas where boring and pulling is not possible, the unit duct should be trenched and backfilled according to Section 816.03 (a). Trench and backfill shall be according to Section 819 except as follows: Trench and backfill will not be paid for separately, but shall be included in the

measurement of the UNIT DUCT, 600V, 6-1/C NO. 6, 1/C NO. 8 GROUND, (XLP-TYPE USE), 1 ½" DIA., POLYETHYLENE item.

3. INSTALLATION:

The installation shall consist of the boring of the raceway and then the pulling of the unit duct, all as shown on the plans or directed by the engineer. This operation is mainly from pole base to pole base, but also may be from pole base to control installation. The nominal depth of the boring is to be located thirty inches (30") below finished grade.

4. METHOD OF MEASUREMENT:

The method of measurement for unit duct shall be as noted in Section 816.04 of the Standard Specifications, except as follows: No additional payment will be given for vertical distances or entrances to light poles, controllers, handholes, pull boxes, or junction boxes.

5. BASIS OF PAYMENT:

This work will not be paid for separately, but shall be included and paid for at the contract unit price per FOOT for UNIT DUCT, 600V, 6-1/C NO. 6, 1/C NO. 8 GROUND, (XLP-TYPE USE), 1 ½" DIA., POLYETHYLENE, and shall include all the materials, equipment and labor as specified herein or as directed by the Engineer.



# DESIGN & CONSTRUCTION STANDARD SPECIFICATIONS

## Pipelines Occupancies

OFFICE OF:  
CHIEF ENGINEER – DESIGN AND CONSTRUCTION  
JACKSONVILLE, FLORIDA  
September 15, 2003  
Last Revised February 24, 2010

# DESIGN & CONSTRUCTION STANDARD SPECIFICATIONS

## Pipelines

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## Scope

- A) This specification shall apply to the design and construction of pipelines carrying flammable or non-flammable substances and casings containing wires, cables, and carrier pipes across and along CSXT property and facilities. This specification shall also apply to tracks owned by others (sidings, industry tracks, etc.) over which CSXT operates its equipment.
- B) It is to be clearly understood that CSXT owns its right-of-way for the primary purpose of operating a railroad. All occupancies shall therefore be designed and constructed so that rail operations and facilities are not interfered with, interrupted, or endangered. In addition, the proposed facility shall be located to minimize encumbrance to the right-of-way so that the railroad will have unrestricted use of its property for current and future operations.

## Definitions

CSXT	CSX Transportation, Inc.
Contract Administration	CSXT's Contract Administration Department
Owner (Applicant)	Individual, Corporation, or Municipality desiring occupancy of CSXT property
Professional Engineer	Engineer licensed in the state where the facilities are to be constructed.
Carrier Pipe	Pipe used to transport the product
Casing Pipe	Pipe through which the carrier pipe is installed under main tracks
Sidings or Industry Tracks	Tracks located off of CSXT's right-of-way, serving an industry

## Application for Occupancy

- A) Owner (Applicant) desiring occupancy of CSXT property by pipeline occupations must agree upon the following: Approval by CSXT of all engineering and construction details, execution of an appropriate CSXT occupational agreement, and payment of any required fees and/or rentals specified therein.
- B) Occupancy applications shall be completed in full with all of the required information requested in order for the application to be processed. Review the entire application package, as well as the engineering specifications, before completing the application.
- C) Applications may be secured in writing from: **Contract Administration Department, CSXT Transportation, 500 Water Street – J-180, Jacksonville, Florida 32202.**

## Right of Entry

- A) Entry upon CSXT property for the purpose of conducting surveys, field inspections, obtaining soils information, or any other purposes associated with the design and construction for the proposed occupancy, will not be permitted without a proper entry permit prepared by CSXT. The applicant must pay the associated fees and execute the entry permit.
- B) The issuance of an entry permit does not constitute authority to proceed with any construction. Construction cannot begin until a formal agreement is executed by CSXT and the Owner receives permission, from the designated inspection agency of CSXT, to proceed with the work.

## Site Inspections

- A) For longitudinal occupancy of CSXT property, a site inspection along the proposed pipeline route may be required before final design plans are prepared. When a site inspection is required, the applicant and/or the engineer must meet with a CSXT Field Representative to view the entire length of the proposed occupancy; the applicant will be informed of the need for a meeting during application processing.
- B) Prior to the site inspection the applicant must submit the following information:
  - i) A plan view of the proposed route showing all tracks, both CSXT right-of-way lines, and all other facilities located on the right-of-way. The distance from the proposed pipeline to the adjacent track and to the right-of-way lines must be shown.
  - ii) A complete application form.
  - iii) Typical cross sections along the proposed route. (See Plate I)
- C) Site inspections for pipe crossings are not required unless, in the opinion of CSXT, the size and location of the facility warrant an inspection.

## Information Required for Submission

- A) All plans and documents required in the application package shall be submitted as per the instructions in the applications package
- B) Failure to following these instructions may result in the return of the information provided without further action taken.

## Notification to Proceed with Construction

- A) After approval of the engineering plans and specifications and execution of the occupational agreement, the Owner will be notified of the appropriate CSXT Regional Engineering office representative who must be contacted prior to start of construction. The appropriate CSXT Regional Engineering office at its sole discretion, may provide inspection of the project and coordinate all other construction aspects of the project that relate to CSXT (flagging, track work, protection of signal cables, etc.).

- B) Note that on large and/or extensive projects, the following may be required: (1) A deposit equal the amount of CSXT's estimate will be required prior to the commence of any work. Any unused portion of the advance will be reimbursed to the applicant. (2) The use of an outside Service Provider for constructing engineering and inspection may be required by CSXT at the sole cost of the applicant
- C) The appropriate Regional Engineering office must be notified a minimum of fourteen (14) working days prior to desired start of construction.

## General Requirements

- A) Use of Casing Pipe
  - i) A casing pipe will be required for all pipeline crossings carrying liquid or gaseous substances.
  - ii) For non-pressure sewer or drainage crossings, where the installation can be made by open cut (see Construction Requirements Section) or reinforced concrete pipe can be jacked under the railroad (see Construction Requirements Section), the casing pipe may be omitted.
  - iii) Pressure pipelines that are located within 25 feet of the centerline of any track shall be encased.
  - iv) At proposed pipe crossing the casing pipe shall be laid across the entire width of the right-of-way, except where a greater length is required to comply with the Design Requirements-Casing Pipe Section of this specification, even though such extension is beyond the right-of-way.
  - v) At the discretion of CSXT a casing pipe may be required for any application regardless of the commodity carried.
- B) Location of Pipeline on the Right-of-Way
  - i) Pipelines laid longitudinally on CSXT's right-of-way shall be located as far as practicable from any tracks or other important structures and as close to the railroad property line as possible. Longitudinal pipelines must not be located in earth embankments or within ditches located on the right-of-way.
  - ii) Pipelines shall be located, where practicable, to cross tracks at approximate right angles to the track, but preferably at not less than 45 degrees.
  - iii) Pipelines shall not be placed within a culvert, under railroad bridges, nor closer than 45 feet to any portion of any railroad bridge, building, or other important structure, except in special cases, and then by special design, as approved by CSXT's Chief Engineer, Design and Construction.
  - iv) Pipelines shall not be located within the limits of a turnout (switch) when crossing the track. The limits of the turnout extend from the point of the switch to 15 feet beyond the last long timber.

- v) Pipeline installations shall not be designed as an open cut installation where the pipeline is to be located within the limits of a grade crossing. If it is shown that no other method of installation is possible, the owner will be responsible for reimbursing CSXT for all costs associated with the removal and reconstruction of the grade crossing. (This cost will require advance funding by the pipeline owner).
- vi) Pipelines carrying liquefied petroleum gas shall, where practicable, cross the railroad where tracks are carried on embankment.

C) Depth of Installation

- i) Pipelines conveying non-flammable substances
  - (a) Casing/carrier pipes placed under CSXT track(s) shall be not less than 5.5 feet from base of rail to top of pipe at its shallowest point.
  - (b) Pipelines laid longitudinally on CSXT's right-of-way, 50 feet or less from centerline track shall be buried not less than 4 feet from ground surface to top of pipe. Where the pipeline is laid more than 50 feet from centerline of track, the minimum cover shall be at least 3 feet.
- ii) Pipelines conveying flammable substances
  - (a) Casing pipes under CSXT track(s) shall be not less than 5.5 feet from base of rail to top of pipe at its closest point. On other portions of the right-of-way, where the pipe is not directly beneath any track, the depth from ground surface or from bottom of ditch to top of pipe shall not be less than 3 feet. Where 3 feet of cover cannot be provided from bottom of ditch, a 6-inch thick reinforced concrete slab shall be provided over the pipeline for protection.
  - (b) Pipelines laid longitudinally on CSXT's right-of-way, 50 feet or less from centerline track shall be buried not less than 6 feet from ground surface to top of pipe. Where the pipeline is laid more than 50 feet from centerline of track, the minimum cover shall be at least 5 feet

D) Pipelines within Limits of a Dedicated Highway

- i) Pipelines within the limits of a dedicated highway are subject to all the requirements of this specification and must be designed and installed in accordance with this specification.
- ii) The limits of the dedicated highway (right-of-way) must be clearly shown on the plans.
- iii) Construction cannot begin until an agreement has been executed between CSXT and the Owner and proper notification has been given to CSXT's Regional Engineering Officer. (See Notification to Proceed with Construction)

E) Modification of Existing Facilities

- i) Any replacement or modification of an existing carrier pipe and/or casing shall be considered as a new installation, subject to the requirements of this specification.

F) Abandoned Facilities

- i) The owner of all pipe crossings proposed for abandonment shall notify CSXT, in writing, of the intention to abandon.
- ii) Abandoned pipelines shall be removed or completely filled with cement grout, compacted sand, or other methods, as approved by CSXT.
- iii) Abandoned manholes and other structures shall be removed to a minimum depth of 2 feet below finished grade and completely filled with cement grout, compacted sand, or other methods as approved by CSXT.

G) Conflict of Specifications

- i) Where laws or orders of public authority prescribe a higher degree of protection than specified herein, then the higher degree so prescribed shall be deemed a part of this specification.

H) Insulation

- i) Pipelines and casings shall be suitably insulated from underground conduits carrying electric wires on CSXT property.

I) Corrosion Protection and Petroleum Leak Prevention

- i) Pipelines on CSXT property that carry petroleum products or hazardous liquids shall be designed in accordance with current federal, state, and/or local regulations that mandate leak detection automatic shutoff, leak monitoring, sacrificial anodes, and/or exterior coatings to minimize corrosion and prevent petroleum releases.

J) Plastic Carrier Pipe Materials

- i) Plastic carrier pipe materials include, but are not limited to thermoplastic and thermoset plastic pipes, Thermoplastic types include Polyvinyl Chloride (PVC), Acrylonitrile Butadiene Styrene (ABS), High Density Polyethylene (HDPE), Polyethylene (PE), Polybutylene (PB), Cellulose Acetate Butyrate (CAB), and Styrene Rubber (SR), Thermoset types include Reinforced Plastic Mortar (RPM), Reinforced Thermosetting Resin (FRP) and Fiberglass Reinforce Plastic (FRP).
- ii) Plastic carrier pipelines shall be encased according to AREMA Chapter 1 Section 5.1.5.
- iii) Plastic pipe material shall not be used to convey liquid flammable substances.

- iv) Plastic pipe material shall be resistant to the chemicals with which contact can be anticipated. Plastic carrier pipe shall not be utilized where there is potential for contact with petroleum contaminated soils or other non-polar organic compounds that may be present in surrounding soils.
- v) Plastic carrier pipe can be utilized to convey flammable gas products provided the pipe material is compatible with the type of product conveyed and the maximum allowable operating pressure is less than 100 PSI. Carrier pipe materials, design, and installation shall conform to Code of Federal Regulation 49CFR§178 to §199, specifically §192 and American National Standards Institute ASME B31.8 and ASTM D2513. Codes, specifications, and regulations current at time of construction of the pipeline shall govern the installation of the facility within the railway right-of-way. The proof testing of the strength of carrier pipe shall be in accordance with ANSI requirements. Plastic carrier pipes will be encased according to AREMA Chapter 1 Section 5.1.5.
- vi) Plastic carrier pipe conveying flammable substances shall be encased the entire limits of the right-of-way. If special conditions exist which prevent encasement within the entire limits of the right-of-way, the Chief Engineer must approve the minimum encased length.
- vi) Plastic carrier pipe must be encased under all tracks, including sidings and industrial tracks within the limits of the right-of-way.
- vii) Longitudinal carrier pipeline shall be steel or ductile iron. Plastic carrier pipe may be utilized for longitudinal installation with approval by the Chief Engineer, but shall be fully encased within the limits of the right-of-way.
- viii) Codes, specifications, and regulations current at the time of construction the pipeline shall govern the installation of the facility within the railway rights-of-way. The proof testing of the strength of carrier pipe shall be in accordance with ANSI requirements.

<u>Specification Number</u>	<u>Carrier Pipe Properties</u>
ANSI/AWWA C900	PVC pressure pipe 4" through 12"
ANSI/AWWA C901	PE pressure pipe and tubing 1/2" through 3" for water
ANSI/AWWA C902	PE pressure pipe and tubing 1/2" through 3" for water
ANSI/AWWA C905	PVC water pipe, 14" through 36"
ANSI/AWWA C906	PE pressure pipe and fittings 4" - 63" for water
ANSI/AWWA C907	PVC pressure fittings 4" - 8"
ANSI/AWWA C950	Fiberglass pressure pipe

## Soil Investigation

### A) General

- i) Test borings or other soil investigations, approved by CSXT's Chief Engineer, shall be made to determine the nature of the underlying material for all pipe crossings with casing pipe sizes greater or equal to 48 inches in diameter and larger under track(s).
- ii) Test borings or other soil investigations, approved by CSXT's Chief Engineer, may be required when, in the judgment of CSXT, they are necessary to determine the adequacy of the design and construction of pipe crossings with casings less than 48 inches in diameter and for other facilities located on the right-of-way. Note: the applicant shall be responsible for the notification of all underground utilities including CSX signal cables.

### B) Location

- i) Borings shall be made on each side of the track(s), on the centerline of the pipe crossing, and as close to the track(s) as practicable.
- ii) Test boring logs shall be accompanied with a plan, drawn to scale, showing the location of the borings in relation to the track(s) and the proposed pipe.

### C) Sampling

- i) Test borings shall be made in accordance with current ASTM Designation D1586 except that sampling must be continuous from the ground surface to 5 feet below the proposed invert unless rock is encountered before this depth. Where rock is encountered, it is to be cored using a Series "M" Double Tube Core Barrel, with a diamond bit, capable of retrieving a rock core at least 1 5/8" in diameter. Individual core runs are not to exceed 5 feet in length.
- ii) All borings shall be sealed, for their full depth, with a 4-3-1 bentonite-cement-sand grout after accurate ground water readings have been taken and recorded.
- iii) Soil samples taken from auger vanes or return washwater are not acceptable.

### D) Boring Logs

- i) Test boring logs shall clearly indicate **all** of the following:
  - (a) Boring number as shown on the required boring location plan.
  - (b) Ground elevation at each boring using same datum as the pipeline construction plans.
  - (c) Engineering description of soils or rock encountered.
  - (d) Depth and percent recovery of all soil samples.
  - (e) Depth from surface for each change in strata.

- (f) Blows for each 6 inches of penetration for the standard penetration test described in ASTM D 1586. Blows for lesser penetrations should be recorded.
  - (g) Percent recovery and Rock Quality Designation (RQD) for all rock cores.
  - (h) Depth to ground water while sampling and when it has stabilized in the bore hole.
- ii) The location of the carrier pipe and/or casing pipe shall be superimposed on the boring logs before submission to CSXT.

E) Additional Information

- i) When directed by CSXT, additional borings may be required for the purpose of taking undisturbed thin-wall piston samples or Dennison type samples for laboratory testing to determine the index and engineering properties of certain soil strata.

## Design Requirements

A) Design Loads

i) General Requirements

- (a) All pipes, manholes, and other facilities shall be designed for the external and internal loads to which they will be subjected.
- (b) To allow for placement of additional track(s) or shifting of the existing track(s), all proposed pipelines or structures shall be designed as if a railroad loading is directly above the facility.

ii) Earth Load

- (a) The dead load of the earth shall be considered as 120 pounds per cubic foot unless soil conditions warrant the use of a higher value.

iii) Railroad Load (live load and impact)

- (a) The railroad live load used shall be a Cooper E-80 loading. This loading consists of 80 kip axle loads spaced 5 feet on centers.
- (b) An impact factor of 1.75 (multiply live load by the impact factor) shall be used for depth of cover up to 5 feet. Between 5 and 30 feet, the impact factor is reduced by 0.03 per foot of depth. Below a depth of 30 feet, the impact factor is one.

- (c) The values shown in Table 1 shall be used for the vertical pressure on a buried structure for the various heights of cover.

Table 1

Live loads, including impact, for various heights of cover for a Cooper E-80 loading.

Height of Cover Feet	Load	
	Pound per square feet	(kPa)
2	3800	(162.8)
3	3150	(150.8)
4	2850	(136.5)
5	2550	(122.1)
6	2250	(107.7)
7	1950	(93.4)
8	1700	(81.4)
9	1500	(71.8)
10	1300	(62.2)
12	1000	(47.9)
14	800	(38.3)
16	625	(29.9)
18	500	(23.9)
20	400	(19.2)
25	250	(12.0)
30	150	(7.2)

- (d) To determine the horizontal pressure caused by the railroad loading on a sheet pile wall or other structure adjacent to the track, the Boussinesq analysis shall be used. The load on the track shall be taken as a strip load with a width equal to the length of the ties which is typically, 8.5 feet. The vertical surcharge,  $q$  (psf), caused by each axle, shall be uniform and equal to the axle load divided by the tie length and the axle spacing, 5 feet. For the E-80 loading this results in;

$$q = 80,000 / (8.5 \times 5) = 1882 \text{ psf}$$

The horizontal pressure due to the live load surcharge at any point on the wall or other structure is  $p_h$  and can be calculated by the following:

$$p_h = (2q/\pi)(\beta - \sin \beta \cos 2\alpha)$$

- (e) The vertical and horizontal pressures given above shall be used unless an alternate design method is approved by CSXT. Proposals to use an alternate design method must include acceptable references and a statement explaining the justification for choosing the alternate method.

B) Design Assumptions

To design a casing pipe or an uncased carrier pipe for the external loads on CSXT's right-of-way, the following design assumptions shall be used, unless site conditions indicate more conservative values are required:

i) Flexible Pipe (Steel, DIP, CMP, Tunnel Liner Plate)

(a) Steel Pipe (Bored and jacked in place)

- Spangler's Iowa formula shall be used for design with:

Deflection lag factor	-	$D_f = 1.5$
Modulus of soil reaction	-	$E' = 1080 \text{ psi}$
Bedding constant	-	$K_b = 0.096$
Soil loading constant	-	$K_{U'} = 0.13$
Allowable deflection of pipe	-	3% of pipe diameter

(b) Ductile Iron Pipe (Open Cut)

- AWWA Specification C150 shall be used for design with:  
Pipe laying condition = Type 3  
Earth load - ANSI A 51.50 prism method

(c) Corrugated Steel Pipe & Corrugated Structural Steel Plate Pipe (Open Cut)

- AREMA Chapter 1, Sections 4.9 & 4.10 shall be used for design with:  
Soil stiffness factor -  $K = 0.33$   
Railroad impact as per Design Requirements-Casing Pipe Section of this specification.

(d) Tunnel Liner Plate (Tunneled)

- AREMA Chapter 1, Part 4, Section 4.16 shall be used for design with:  
Soil stiffness factor -  $K = 0.33$   
Railroad impact as per Design Requirements-Casing Pipe Section of this specification.

ii) Rigid Pipe (RCP, Vitrified Clay Pipe and PCCP)

(a) Reinforced Concrete Pipe, Vitrified Clay Pipe and Prestressed Concrete Cylinder Pipe (Open Cut)

- American Concrete Pipe Association design manual shall be used for design with:  
Marston load theory used for earth load  
Bedding (Load Factor) -  $L_f = 1.9$   
Factor of safety -  $FS = 1.25$  for RCP  
 $FS = 1.50$  for VCP  
Railroad impact as per Design Requirements-Casing Pipe Section of this specification.

- (b) Reinforced Concrete Pipe (Jacked)
  - American Concrete Pipe Association design manual shall be used for design with:
    - Marston load theory used for earth load
    - Bedding (Load Factor) -  $L_f = 3.0$
    - Factor of safety = 1.25
    - Railroad impact as per Design Requirements-Design Loads Section of this specification.
    - Others – As approved by CSXT

C) Casing Pipe

i) General Requirements

- (a) Casing pipe shall be so constructed as to prevent leakage of any substance from the casing throughout its length, except at ends of casing where ends are left open, or through vent pipes when ends of casing are sealed. Casing shall be installed so as to prevent the formation of a waterway under the railroad, and with an even bearing throughout its length, and shall slope to one end (except for longitudinal occupancy).
- (b) The casing pipe and joints shall be of steel and of leakproof construction when the pipeline is carrying liquid flammable products or highly volatile substances under pressure.
- (c) The inside diameter of the casing pipe shall be such as to allow the carrier pipe to be removed subsequently without disturbing the casing or the roadbed. For steel pipe casings, the inside diameter of the casing pipe shall be at least 2 inches greater than the largest outside diameter of the carrier pipe joints or couplings, for carrier pipe less than 6 inches in diameter; and at least 4 inches greater for carrier pipe 6 inches and over in diameter.
- (d) For flexible casing pipe, a maximum vertical deflection of the casing pipe of 3 percent of its diameter, plus ½ inch (13 mm) clearance shall be provided so that no loads from the roadbed, track, traffic, or casing pipe itself are transmitted to the carrier pipe. When insulators are used on the carrier pipe, the inside diameter of the flexible casing pipe shall be at least 2 inches greater than the outside diameter of the carrier pipe for pipe less than 8 inches in diameter; at least ¾ inches greater for pipe 8 inches to 16 inches, inclusive, in diameter and at least 1½ inches greater for pipe 18 inches and over in diameter.
- (e) In no event shall the casing pipe diameter be larger than is necessary to permit the insertion of the carrier pipe.

- (f) Casing pipe under railroad tracks and across CSXT's right-of-way shall extend the **greater** of the following distances, measured at right angle to centerline of track:
- Across the entire width of the CSXT right-of-way.
  - 3 feet beyond ditch line.
  - 2 feet beyond toe of slope.
  - A minimum distance of 25 feet from each side of centerline of outside track when casing is sealed at both ends.
  - A minimum distance of 45 feet from centerline of outside track when casing is open at both ends.
  - Beyond the theoretical railroad embankment line. This line begins at a point 12 feet horizontally from centerline track, 18 inches below top-of-rail, and extends downward on a 1½ (H) to 1 (V) slope.
- (g) If additional tracks are constructed in the future, the casing shall be extended correspondingly at the Owner's expense.

ii) Steel Pipe

- (a) Steel pipe may be installed by open cut, boring or jacking depending on situation.
- (b) Steel pipe shall have a specified minimum yield strength, SMYS, of at least 35,000 psi. The ASTM or API specification and grade for the pipe are to be shown on the Application Form.
- (c) Joints between the sections of pipe shall be fully welded around the complete circumference of the pipe.
- (d) Steel casing pipe, with a minimum cover of 5.5 ft., shall have a **minimum** wall thickness as shown in Table 2, unless computations indicate that a thicker wall is required.

**Table 2**

<b>Pipe Diameter Nominal Pipe Size (in.)</b>	<b>Coated or Cathodically Protected Nominal Wall Thickness (in.)</b>	<b>Uncoated and Unprotected Nominal Wall Thickness (in.)</b>
10 and under	0.188	0.188
12 & 14	0.188	0.250
16	0.219	0.281
18	0.250	0.312
20 & 22	0.281	0.344
24	0.312	0.375
26	0.344	0.406
28	0.375	0.438
30	0.406	0.469
32	0.438	0.500
34 & 36	0.469	0.532
38	0.500	0.562
40	0.531	0.594
42	0.562	0.625
44 & 46	0.594	0.657
48	0.625	0.688
50	0.656	0.719
52	0.688	0.750
54	0.719	0.781
56 & 58	0.750	0.812
60	0.781	0.844
62	0.812	0.875
64	0.844	0.906
66 & 68	0.875	0.938
70	0.906	0.969
72	0.938	1.000

(e) Coated steel pipe that is bored or jacked into place shall conform to the wall thickness requirements for uncoated steel pipe since the coating may be damaged during installation.

(f) Smooth wall steel pipes with a nominal diameter over 72 inches will not be permitted.

iii) Ductile Iron Pipe

(a) Ductile iron pipe may be used only at the sole discretion of the Chief Engineer when placed by the open cut method. Jacking or boring through the railroad embankment is not permitted due to the bell and spigot joints.

(b) Ductile iron pipe shall conform to the requirements of ANSI A21.51/AWWA C-151. Class 56 pipe shall be used unless computations, in accordance with the Design Requirements-Design Loads and Design Assumptions sections, are provided.

- (c) Table 3 is based on the design assumptions given in the Design Requirements-Design Loads Section with a minimum cover of 5.5 ft. This table is provided for information only.

**Table 3**

Pipe diameter (in.)	Thickness Class		Pressure Class	
	Wall thickness (in.)	Class	Wall thickness (in.)	Class
3	0.25	51	0.25	350
4	0.26	51	0.25	350
6	0.25	50	0.25	350
8	0.27	50	----	----
10	0.32	51	----	----
12	0.34	51	----	----
14	0.39	52	----	----
16	0.40	52	----	----
18	0.44	53	----	----
20	0.45	53	----	----
24	0.53	55	----	----
30	0.63	56	----	----
36	0.73	56	----	----
42	0.83	56	----	----
48	0.93	56	----	----
54	1.05	56	----	----

- (d) The pipe shall have mechanical or push on type joints.
- iv) Corrugated Steel Pipe and Corrugated Structural Steel Plate Pipe
- (a) Corrugated steel pipe and corrugated structural steel plate pipe may be used for a casing only when placed by the open cut method. Jacking or boring through the railroad embankment is not permitted.
- (b) Corrugated steel pipe and corrugated structural steel plate pipe may be used for a casing provided the pressure in the carrier pipe is less than 100 psi.
- (c) Pipe shall be bituminous coated and shall conform to the current AREMA Specifications Chapter 1, Part 4.
- (d) Corrugated steel pipe shall have a minimum sheet thickness as shown in Table 4. Corrugated structural steel plate pipe shall have a minimum plate thickness of 8 gage, 0.168 in. If computations indicate that a greater thickness is required, the thicker sheet or plate shall be used.

**Table 4**

Pipe Diameter (Inches)	Sheet Thickness	
	(Gage)	(Inches)
12 to 30	14	0.079
36	12	0.109
42 to 54	10	0.138
60 to 120	8	0.168

v) Steel Tunnel Liner Plate

- (a) Liner plates shall be installed by the tunneling method as detailed in the Construction Requirements-Method of Installation section of this specification.
- (b) Tunnel liner plates shall be galvanized and bituminous coated and shall conform to current AREMA guidelines. If the tunnel liner plates are used only to maintain a tunneled opening until the carrier pipe is installed, and the annular space between the carrier pipe and the tunnel liner is completely filled with cement grout within a reasonably short time after completion of the tunnel, then the tunnel liner plates need not be galvanized and coated.
- (c) Tunnel liner plates are to be a minimum of 12 gage and shall be fabricated from structural quality, hot-rolled, carbon-steel sheets or plates conforming to ASTM Specification A 1011.
- (d) The following liner plate information must be shown on the Application Form
  - Number of flanges (2 or 4)
  - Width of plate
  - Type of plate (smooth or corrugated)

vi) Reinforced Concrete Pipe

- (a) Reinforced concrete pipe shall be installed by the open cut (at the sole discretion of the Chief Engineer) or jacking method.
- (b) Reinforced concrete pipe shall conform to ASTM Specification C 76. Class V pipe, Wall B or C shall be used unless computations, in accordance with the Design Requirements-Design Assumptions, are provided.
- (c) Reinforced concrete pipe may be used for a casing provided the pressure in the carrier pipe is less than 100 psi.

- (d) Pipe placed by open cut shall be installed in accordance with AREMA Guidelines except that backfill and compaction shall be in accordance with the Construction Requirements-Method of Installation section of this specification.
  - (e) Pipe jacked into place shall have tongue and groove joints and shall be installed in accordance with the Construction Requirements-Method of Installation section of this specification.
  - (f) Joints between sections of the RCP shall be sealed with a gasket conforming to ASTM C 443 or approved equal.
- vii) Concrete Encasement
- (a) At locations where the installation is by open cut and a casing pipe is required, but cannot be installed due to elbows or other obstructions, concrete encasement may be used when approved by CSXT.
  - (b) The concrete encasement must provide a minimum cover of 6 inches of concrete around the pipe. A 6 x 6 - W 2.9 x W 2.9 welded wire fabric shall be placed in the concrete on all sides.

#### D) Carrier Pipe

##### i) General Requirements

- (a) The pipe shall be laid with sufficient slack so that it is not in tension.
- (b) Steel pipe shall not be used to convey sewage, storm water, or other liquids that could cause corrosion.
- (c) Carrier pipes located on CSXT's right-of-way or under tracks which CSXT operates, shall be manufactured in accordance with the following specifications:
  - Steel Pipe - The ASTM or API specification and grade for the pipe is to be shown on the Application Form. The specified minimum yield strength is to be at least 35,000 psi. For flammable substances, see the Design Requirements-Carrier Pipe Section of this document for additional requirements.
  - Ductile Iron Pipe - ANSI A21.51/AWWA C151
  - Corrugated Metal Pipe - AREMA Chapter 1, Part 4
  - Reinforced Concrete Pipe - ASTM C 76
  - Vitrified Clay Pipe - ASTM C 700
  - Prestressed Concrete Cylinder Pipe - AWWA C301
  - Reinforced Concrete Cylinder Pipe - AWWA C300

- Others - As approved by CSXT.
- (d) Carrier pipes installed within a casing pipe shall be designed for the internal pressure to which it will be subjected.
- (e) Gravity flow carrier pipes, installed without a casing pipe, shall meet the requirements, of the particular pipe material, as given in Design Requirements-Casing Pipe Section of this specification.
- (f) Design computations, stamped by a Professional Engineer, must be submitted for all uncased pressure pipelines installed on CSXT's right-of-way. The pipe must be designed for the internal and external loads (see the Design Requirements Section of this document) to which it may be subjected. The design assumptions given in Design Requirements Section shall apply.
- ii) Pipelines Carrying Flammable Substances
- (a) Pipelines carrying oil, liquefied petroleum gas, and other flammable products shall be of steel and conform to the requirements of the current ASME B 31.4 Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols, and other applicable ASME codes, except that the maximum allowable stresses for design of steel pipe shall not exceed the following percentages of the specified minimum yield strength (multiplied by the longitudinal joint factor) of the pipe as defined in the above codes:
- The following percentages apply to hoop stress in steel pipe within a casing under railroad tracks, across railroad right-of-way and longitudinally on railroad right-of-way:
    - Seventy-two percent on oil pipelines.
    - Fifty percent for pipelines carrying condensate, natural gasoline, natural gas liquids, liquefied petroleum gas, and other liquid petroleum products.
    - Sixty percent for installations on gas pipelines.
- The following percentages apply to hoop stress in steel pipe laid longitudinally on railroad right-of-way without a casing:
- Sixty percent for oil pipelines.
  - Forty percent for pipelines carrying condensate, natural gasoline, natural gas liquids, liquefied petroleum gas, and other liquid petroleum products.
- (b) Computations, based on the above requirements and stamped by a Professional Engineer shall be submitted with the application for occupancy.

iii) Uncased Pipelines Carrying Gas

- (a) Pipelines carrying flammable and nonflammable gas products shall be steel (Nonflammable – plastic) and shall conform to the requirements of the current ASME B 31.8 Gas Transmission and Distribution Piping Systems, and other applicable ANSI codes.
- (b) The minimum wall thickness for uncased carrier pipe shall be in accordance with the values provided in AREMA, Chapter 1, Part 5.
- (c) A durable coating, which will resist abrasion (fusion bonded epoxy or other suitable material), shall be used to protect the uncased pipeline when the boring method of installation is used.
- (d) If CSXT determines there is the potential for damage to the uncased pipeline (foreign material in the subgrade, third party damage, etc.), special protection of the pipeline will be required. Special protection may include the use of concrete jacketed carrier pipe, a protection slab over the pipeline, increased depth of bury or other means.

E) Casing Pipe End Seals

- i) Casings for carrier pipes of flammable and hazardous substances shall be suitably sealed to the outside of the carrier pipe. Details of the end seals shall be shown on the plans.
- ii) Casings for carrier pipes of non-flammable substances shall have both ends of the casing blocked up in such a way as to prevent the entrance of foreign material, but allowing leakage to pass in the event of a carrier break.
- iii) The ends of a casing pipe may be left open when the ends are at or above ground surface and above high water level, provided drainage is afforded in such a manner that leakage will be conducted away from railroad tracks and structures.

F) Vents

- i) Sealed casings for flammable substances shall be properly vented. Vent pipes shall be of sufficient diameter, but in no case less than two inches in diameter, and shall be attached near each end of the casing and project through the ground surface at right-of-way lines or not less than 45 feet, measured at right angles from centerline of nearest track.
- ii) Vent pipes shall extend not less than 4 feet above the ground surface. Top of vent pipe shall have a down-turned elbow, properly screened, or a relief valve. Vents in locations subject to high water shall be extended above the maximum elevation of high water and shall be supported and protected in a manner approved by CSXT.
- iii) Vent pipes shall be at least 4 feet, vertically, from aerial electric wires or greater if required by National Electrical Safety Code (ANSI C2).
- iv) When the pipeline is in a public highway, street-type vents shall be installed.

## G) Signs

- i) All pipelines (except those in streets where it would not be practical to do so) shall be prominently marked at right-of-way lines (on both sides of track for crossings) by durable, weatherproof signs located over the centerline of the pipe. Signs shall show the following:

- Name and address of owner
- Contents of pipe
- Pressure in pipe
- Pipe depth below grade at point of a sign
- Emergency telephone number in event of pipe rupture

- ii) For pipelines running longitudinally on CSXT property, signs shall be placed over the pipe (or offset and appropriately marked) at all changes in direction of the pipeline. Such signs should also be located so that when standing at one sign the next adjacent marker in either direction is visible. In no event shall they be placed more than 500 feet apart unless otherwise specified by CSXT.
- iii) The Owner must maintain all signs on CSXT's right-of-way as long as the occupational agreement is in effect.

## H) Warning Tape

- i) All pressure pipelines installed by the trench method, without a casing, shall have a warning tape placed directly above the pipeline, 2 feet below the ground surface.

## I) Shut-off Valves

- i) Accessible emergency shut-off valves shall be installed within 2,000 on both sides of the pipeline crossing or longitudinal occupancy.
- ii) Location of valves shall be in compliance with United States Department of Transportation, minimum Federal Safety Standards as set forth in 49 CFR 192, or at the discretion of the Chief Engineer.

## J) Cathodic Protection

- i) Cathodic protection shall be applied to all pipelines carrying flammable substances on CSXT's right-of-way.
- ii) For crossings and at other locations where the pipeline must be placed within a casing, the casing is to have cathodic protection or the wall thickness is to be increased to the requirements of the Design Requirements Section Table 2.
- iii) Uncased gas carrier pipes must be coated and cathodically protected to industry standards and test sites, for monitoring the pipeline, provided within 50 feet of the crossing.

- iv) Where casing and/or carrier pipes are cathodically protected by other than anodes, CSXT shall be notified and a suitable test made to ensure that other railroad structures and facilities are adequately protected from the cathodic current in accordance with the recommendation of current Reports of Correlating Committee on Cathodic Protection, published by the National Association of Corrosion Engineers.
- v) Where sacrificial anodes are used, the locations shall be marked with durable signs.

#### K) Manholes

- i) Manholes shall not be located on CSXT property where possible. At locations where this is not practical, including longitudinal occupancies, manholes shall be precast concrete sections conforming to ASTM Designation C 478, "Specification for Precast Concrete Manhole Sections."
- ii) The top of manholes located on CSXT property shall be flush with top of ground.
- iii) The distance from centerline of adjacent track to centerline of proposed manhole shall be shown on the plans.

#### L) Box Culverts

- i) Reinforced concrete box culverts shall be designed in conformance with CSX Standards and AREMA Guidelines.

#### M) Drainage

- i) Occupancies shall be designed, and their construction shall be accomplished, so that adequate and uninterrupted drainage of CSXT's right-of-way is maintained.
- ii) All pipes, ditches, and other structures carrying surface drainage on CSXT property and/or under CSXT track(s) shall be designed to carry the run-off from a one hundred (100) year storm. Plans submitted to CSXT for approval shall be prepared by a Professional Engineer and should indicate design, suitable topographic plan, and outline of total drainage area.
- iii) If the drainage is to discharge into an existing drainage channel on CSXT's right-of-way and/or through a drainage structure under CSXT's track(s), the computations must include the hydraulic analysis of any existing ditch and/or structure.
- iv) When calculating the capacity of existing or proposed drainage structures, under CSXT's track(s), the headwater calculation at the structure shall not be greater than one (1).
- v) Pipe(s) used to carry surface drainage on CSXT's right-of-way shall have a minimum diameter of 24 inches.
- vi) Detention ponds must not be placed on any part of CSXT's right-of-way. Also, the railroad embankment must not be used as any part of a detention pond structure.

- vii) Formal approval of the proposed design, by the appropriate governmental agency having jurisdiction, shall be submitted with the drainage computations.

N) Pipelines on Bridges

- i) Pipelines **cannot** be installed on any bridge carrying CSXT tracks.
- ii) Overhead pipe bridges will only be considered over CSXT right-of-way when underground installation of the pipeline is not possible. The Applicant must show that no practicable alternative is available and overhead pipe bridges will be permitted provided the following conditions are met:
  - (a) The vertical clearance, distance from top of rail to closest component of structure, is shown and is a minimum of 23 feet, measured at a point 6 feet horizontally from centerline track.
  - (b) The support bents for the overhead structure are located off CSXT's right-of-way or a minimum clear distance of 20 feet from centerline track, whichever distance is greater.
  - (c) Support bents within 25 feet of centerline track have pier protection in accordance with AREMA, Chapter 8 Section 2.1.5.
  - (d) Complete structural plans and design computations for the structure and foundations, sealed by a licensed Professional Engineer, are submitted with the application.
  - (e) A fence (topped with barbed wire) or other measures are provided which will prevent access to the bridge by unauthorized personnel or vandals.
- iii) Pipelines carrying flammable substances or non-flammable substances, which by their nature might cause damage if escaping on or near railroad facilities or personnel, shall not be installed on bridges over CSXT tracks. In special cases when it can be demonstrated to CSXT's satisfaction that such an installation is necessary and that no practicable alternative is available, CSXT may permit the installation and only by special design approved by the Chief Engineer, Design and Construction.
- iv) When permitted, pipelines on bridges over CSXT tracks shall be so located as to minimize the possibility of damage from vehicles, railroad equipment, vandalism, and other external causes. They shall be encased in a casing pipe as directed by CSXT.

# Construction Requirements

## A) Method of Installation

### i) General Requirements

- (a) Bored, jacked, or tunneled installations shall have a bore hole essentially the same as the outside diameter of the pipe plus the thickness of the protective coating.
- (b) The use of water or other liquids to facilitate casing emplacement and spoil removal is prohibited.
- (c) If, during installation, an obstruction is encountered which prevents installation of the pipe in accordance with this specification, notify CSXT immediately, abandon the pipe in place, and immediately fill with grout. A new installation procedure and revised plans must be submitted to, and approved by, CSXT before work can resume.

### ii) Bore and Jack (Steel Pipe)

- (a) This method consists of pushing the pipe into the earth with a boring auger rotating within the pipe to remove the spoil.
- (b) The boring operation shall be progressed on a 24-hour basis without stoppage (except for adding lengths of pipe) until the leading edge of the pipe has reached the receiving pit.
- (c) The front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger from leading the pipe so that no unsupported excavation is ahead of the pipe.
- (d) The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered.
- (e) The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than  $\frac{1}{2}$  inch. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe (plus coating) by more than approximately 1 inch grouting (see the Construction Requirements-Grouting Section) or other methods approved by CSXT, shall be employed to fill such voids.
- (f) The face of the cutting head shall be arranged to provide a reasonable obstruction to the free flow of soft or poor material.
- (g) Plans and description of the arrangement to be used shall be submitted to CSXT for approval and no work shall proceed until such approval is obtained.

- (h) Any method that employs simultaneous boring and jacking for pipes over 8 inches in diameter that does not have the above approved arrangement **will not be permitted**. For pipe 8 inches and less in diameter, auguring or boring without this arrangement may be considered for use only as approved by CSXT.
- iii) Jacking (RCP and Steel Pipe)
- (a) This method consists of pushing sections of pipe into position with jacks placed against a backstop and excavation performed by hand from within the jacking shield at the head of the pipe. Ordinarily 36-inch pipe is the least size that should be used, since it is not practical to work within smaller diameter pipes.
  - (b) Jacking shall be in accordance with the current AREMA Guidelines, Chapter 1, Section 4.13, "Earth Boring and Jacking Culvert Pipe Through Fills." This operation shall be conducted without hand mining ahead of the pipe and without the use of any type of boring, auguring, or drilling equipment.
  - (c) Bracing and backstops shall be so designed and jacks of sufficient rating used so that the jacking can be progressed on a 24-hour basis without stoppage (except for adding lengths of pipe) until the leading edge of the pipe has reached the receiving pit.
  - (d) When jacking reinforced concrete pipe, a jacking shield shall be fabricated as a special section of reinforced concrete pipe with a steel cutting edge, hood, breasting attachments, etc., cast into the pipe. The wall thickness and reinforcing shall be designed for the jacking stresses.
  - (e) When jacking reinforced concrete pipe tapped for no smaller than 1½-inch pipe, grout holes shall be cast into the pipe at manufacture. Three grout holes equally spaced around the circumference and 4 feet longitudinally shall be provided for greater than 54 inches and smaller. Four grout holes equally spaced around the circumference and 4 feet longitudinally shall be provided for RCP 60 inches and larger.
  - (f) Immediately upon completion of jacking operations, the installation shall be pressure grouted as per Construction Requirements-Grouting Section of this specification.
- iv) Tunneling (Tunnel liner plate)
- (a) This method consists of placing rings of liner plate within the tail section of a tunneling shield or tunneling machine. A tunneling shield shall be used for all liner plate installations unless otherwise approved by CSXT.

- (b) The shield shall be of steel construction, designed to support a railroad track loading as specified in the Design Requirements-Casing Pipe of this specification, in addition to the other loadings imposed. The advancing face shall be provided with a hood, extending no less than 20 inches beyond the face and extending around no less than the upper 240 degrees of the total circumference. It shall be of sufficient length to permit the installation of at least one complete ring of liner plates within the shield before it is advanced for the installation of the next ring of liner plates. The shield shall conform to and not exceed the outside dimensions of the liner plate tunnel being placed by more than 1 inch at any point on the periphery unless otherwise approved by CSXT.
  - (c) The shield shall be adequately braced and provided with necessary appurtenances for completely bulkheading the face with horizontal breastboards, and arranged so that the excavation can be benched as may be necessary. Excavation shall not be advanced beyond the edge of the hood, except in rock.
  - (d) Manufacturer's shop detail plans and manufacturer's computations showing the ability of the tunnel liner plates to resist the jacking stresses shall be submitted to CSXT for approval.
  - (e) Unless otherwise approved by CSXT, the tunneling shall be conducted continuously, on a 24-hour basis, until the tunnel liner extends at least beyond the theoretical railroad embankment line
  - (f) At any interruption of the tunneling operation, the heading shall be completely bulkheaded.
  - (g) The liner plates shall have tapped grout holes for no smaller than 1½-inch pipe, spaced at approximately 3 feet around the circumference of the tunnel liner and 4 feet longitudinally.
  - (h) Grouting behind the liner plates shall be in accordance with the Construction Requirements-Grouting Section of this specification.
- v) Directional Boring / Horizontal Directional Drilling (Steel Pipe)

**Method "A"—Directional Boring**

- (a) **Installations by this method are generally not acceptable.** Consideration will be given where the depth of cover is substantial, greater than 15 feet, or the bore is in rock. Factors considered will be track usage, pipe size, contents of pipeline, soil conditions, etc.

- (b) This method consists of setting up specialized drilling equipment on existing grade (launching and receiving pits are not required) and boring a small diameter pilot hole on the desired vertical and horizontal alignment, using a mechanical cutting head with a high pressure fluid (bentonite slurry) to remove the cuttings. The drill string is advanced with the bentonite slurry pumped through the drill string to the cutting head and then forced back along the outside of the drill string, carrying the cuttings back to the surface for removal. When the cutting head reaches the far side of the crossing, it is removed and a reamer is attached to the lead end of the drill string. The pipeline is attached to the reamer and the pilot hole is then back reamed while the pipeline is pulled into place.
- (c) This method is used to place pipelines under rivers, wetlands, and other obstructions that would be difficult to cross by conventional methods. The length of the bore is generally several hundred feet in length, with installations over a thousand feet possible.
- (d) The following preliminary information must be submitted with the request for consideration of this type of installation:
  - (a) A site plan of the area.
  - (b) A plan view and profile of the crossing.
  - (c) An Application Form.
  - (d) Several soil borings along the proposed pipeline route.
  - (e) A construction procedure, including a general description of equipment to be used.

If CSXT Chief Engineer Design and Construction determines this method of installation is acceptable, final design plans and specifications are to be prepared and submitted for approval.

- (e) The project specifications must require the contractor to submit, to CSXT for approval, a complete construction procedure of the proposed boring operation. Included with the submission shall be the manufacture's catalog information describing the type of equipment to be used.

#### **Method "B"—Jack Conduit**

- (a) This method is used to place small diameter conduit for electric lines and other utilities. This method consists of using hydraulic jacking equipment to push a solid steel rod under the railroad from a launching pit to a receiving pit. At the receiving pit, a cone shaped "expander" is attached to the end of the rod and the conduit (casing pipe) is attached to the expander. The rod, expander, and conduit are then pulled back from the launching pit until the full length of the conduit is in place.
- (b) This method may be used to place steel conduit (casing pipe), up to and including 6 inches in diameter, under the railroad.

- (c) The project specifications must require the contractor to submit, to CSXT for approval, a complete construction procedure of the proposed boring operation. Included with the submission shall be the manufacturer's catalog information describing the type of equipment to be used.
- vi) Open Cut – Not a readily accepted practice
- (a) The Owner must request open cut approval when making application for occupancy. All procedures will be in compliance with AREMA Chapter 1 Section 5.1.5.1(b).
- (b) Installations beneath the track by open trench methods will be permitted only with the approval of the Chief Engineer, Design and Construction.
- (c) Installations by open cut will not be permitted under mainline tracks, tracks carrying heavy tonnage or tracks carrying passenger trains. Also, open cut shall not be used within the limits of a highway/railroad grade crossing or its approaches, 25 feet either side of traveled way, where possible.
- (d) Rigid pipe (RCP, VCP, and PCCP) must be placed in a Class B bedding or better.
- (e) At locations where open cut is permitted, the trench is to be backfilled with crushed stone with a top size of the aggregate to be a maximum of 2 inches and to have no more than 5% passing the number 200 sieve. The gradation of the material is to be such that a dense stable mass is produced.
- (f) The backfill material shall be placed in loose 6 inch lifts and compacted to at least 95% of its maximum density with a moisture content that is no more than 1% greater than or 2% less than the optimum moisture as determined in accordance with current ASTM Designation D - 1557 (Modified Proctor). When the backfill material is within 3 feet of the subgrade elevation (the interface of the ballast and the subsoil) a compaction of at least 98% will be required. Compaction test results confirming compliance must be provided to CSXT's Regional Engineering Office by the Owner.
- (g) All backfilled pipes laid either perpendicular or parallel to the tracks must be designed so that the backfill material will be positively drained. This may require the placement of lateral drains on pipes laid longitudinally to the track and the installation of stub perforated pipes at the edge of the slopes.
- (h) Unless otherwise agreed upon, all work involving rail, ties, and other track material will be performed by railroad employees at the sole expense of the Owner, subject to advance payments by the owner.

B) Grouting

- (a) For jacked and tunneled installations a uniform mixture of 1:6 (cement:sand) cement grout shall be placed under pressure through the grout holes to fill any voids, which exist between the pipe or liner plate and the undisturbed earth.
- (b) Grouting shall start at the lowest hole in each grout panel and proceed upwards simultaneously on both sides of the pipe.
- (c) A threaded plug shall be installed in each grout hole as the grouting is completed at that hole.
- (d) When grouting tunnel liner plates, grouting shall be kept as close to the heading as possible, using grout stops behind the liner plates if necessary. Grouting shall proceed as directed by CSXT, but in no event shall more than 6 lineal feet of tunnel be progressed beyond the grouting.

C) Soil Stabilization

- (a) Pressure grouting of the soils or freezing of the soils before jacking, boring, or tunneling may be required at the direction of CSXT Chief Engineer to stabilize the soils, control water, prevent loss of material, and prevent settlement or displacement of embankment. Grout shall be cement, chemical, or other special injection material selected to accomplish the necessary stabilization.
- (b) The materials to be used and the method of injection shall be prepared by a Licensed Professional Soils Engineer, or by an experienced and qualified company specializing in this work and submitted for approval to CSXT before the start of work. Proof of experience and competency shall accompany the submission.

D) Dewatering

- i) When water is known or expected to be encountered all plans and specification must be submitted to the Chief Engineer for approval before the process begins. Pumps of sufficient capacity to handle the flow shall be maintained at the site, provided the contractor has received approval from CSXT to operate them. Pumps in operation shall be constantly attended on a 24-hour basis until, in the sole judgment of CSXT, the operation can be safely halted. When dewatering, a process for monitoring for any settlement of track or structures must be in place.

E) Safety Requirements

- i) All operations shall be conducted so as not to interfere with, interrupt, or endanger the operation of trains nor damage, destroy, or endanger the integrity of railroad facilities. All work on or near CSXT property shall be conducted in accordance with CSXT safety rules and regulations. Specifically all licensee's employees and agents, while on CSXT property, shall be required to wear an orange hard hat, safety glasses with side shields, 6" lace up boots with a distinct heel, shirts with sleeves, and long pants; additional personal protective equipment may be required for certain operations including abrasive cutting, use of torches, use of chainsaws, etc. The contractor and its employees shall comply with the CSXT safety rules at all times while occupying CSXT's property. Operations will be subject to CSXT inspection at any and all times.
- ii) All cranes, lifts, or other equipment that will be operated in the vicinity of the railroad's electrification and power transmission facilities shall be electrically grounded as directed by CSXT.
- iii) Whenever equipment or personnel are working closer than 25 feet from the centerline of an adjacent track, that track shall be considered as being obstructed. Insofar as possible, all operations shall be conducted no less than this distance. All operations shall be conducted only with the permission of, and as directed by, a duly qualified railroad employee present at the site of the work. All costs related to Railroad protection will be passed on to the applicant.
- iv) Crossing of tracks at grade by equipment and personnel is prohibited except by prior arrangement with and as directed by, CSXT.

F) Blasting

Blasting will not be permitted under or on CSXT's right-of-way.

G) Temporary Track Supports

- i) When the jacking, boring or tunneling method of installation is used, and depending upon the size and location of the crossing, temporary track supports shall be installed at the direction of CSXT.
- ii) The Owner's contractor shall supply the track supports with installation and removal performed by CSXT employees.
- iii) The Owner shall reimburse CSXT for all costs associated with the installation and removal of the track supports.

H) Protection of Drainage Facilities

- i) If, in the course of construction, it may be necessary to block a ditch, pipe, or other drainage facility, temporary pipes, ditches, or other drainage facilities shall be installed to maintain adequate drainage, as approved by CSXT. Upon completion of the work, the temporary facilities shall be removed and the permanent facilities restored.

- ii) Soil erosion methods shall be used to protect railroad ditches and other drainage facilities during construction on and adjacent to CSXT's right-of-way.
- I) Support of Excavation Adjacent to Track
  - i) Launching and Receiving Pits
    - (a) The location and dimensions of all pits or excavations shall be shown on the plans. The distance from centerline of adjacent track to face of pit or excavation shall be clearly labeled. Also, the elevation of the bottom of the pit or excavation must be shown on the profile.
    - (b) The face of all pits shall be located a minimum of 25 feet from centerline of adjacent track, measured at right angles to track, unless otherwise approved by CSXT.
    - (c) If the bottom of the pit excavation intersects the theoretical railroad embankment line, interlocking steel sheet piling, driven prior to excavation, must be used to protect the track stability. The use of trench boxes or similar devices is not acceptable in this area.
    - (d) Design plans and computations for the pits, sealed by a Licensed Professional Engineer, must be submitted by the Owner at time of application or by the contractor prior to start of construction. If the pit design is to be submitted by the contractor, the project specifications must require the contractor to obtain approval from CSXT's Chief Engineer, Design & Construction prior to beginning any work on or which may affect CSXT property.
    - (e) The sheeting shall be designed to support all lateral forces caused by the earth, railroad and other surcharge loads. See Design Requirements-Design Loads for railroad loading.
    - (f) After construction and backfilling, all sheet piling within 10 feet of centerline track must be cut off 20 inches below final grade and left in place.
    - (g) All excavated areas are to be illuminated (flashing warning lights not permitted), fenced, and otherwise protected as directed by CSXT.
  - iii) Parallel Trenching and Other Excavation
    - (a) When excavation for a pipeline or other structure will be within the theoretical railroad embankment line of an adjacent track, interlocking steel sheet piling will be required to protect the track.
    - (b) The design and construction requirements for this construction shall be in accordance with the requirements of the Construction Requirements-Support of Excavation Adjacent to Track section of this document.

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iv) Inspections and Testing

- (a) For pipelines carrying flammable or hazardous materials, ANSI Codes, current at time of constructing the pipeline, shall govern the inspection and testing of the facility on CSXT property, except as follows:
- (b) One hundred percent of all field welds shall be inspected by radiographic examinations, and such field welds shall be inspected for 100 percent of the circumference.
- (c) The proof testing of the strength of carrier pipe shall be in accordance with ANSI requirements.

v) Reimbursement of CSXT Costs

- (a) All CSXT costs associated with the pipe installation (inspection, flagging, track work, protection of signal cables, etc.) shall be reimbursed to CSXT by the Owner of the facility. Estimates for Railroad costs will be provide to the Owner prior to the commencement of any work on Railroad right-of-way. **These funds will be collected in advance of any work being done.**

## PUBLICATION STANDARDS SOURCES

ANSI	American National standards Institute, Inc. 0018 (212) 642-4900
AREMA	American Railway Engineering and Maintenance of Way Association 8201 Corporate Drive, Suite 1125 Landover, MD 20785-2230 (301) 459-3200
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103-1187 (215) 299-5585
AWWA	American Water Works Association, Inc. 6666 West Quincy Avenue Denver, CO 80235
	The National Association of Corrosion Engineers Houston, TX 77026

NOTE: If other than AREMA, ASTM, or AWWA specifications are referred to for design, materials, or workmanship on the plans and specifications for the work, then copies of the applicable sections of such other specifications referred to shall accompany the plans and specification for the work.

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DOCUMENT REVISIONS

February 24, 2010: Page 14 - Design Requirements, Section C, Sub-Section (i), Sub-Sub-Section (f),  
6<sup>th</sup> Bullet Point – Location of the Theoretical Railroad Embankment Line  
(Railroad Influence Zone) was amended.



To view Design and Construction documents relative to Horizontal Directional Drilling (HDD), please click on the following links:

[CSXT Interim Guidelines for HDD Projects](#)

[Sample Fraction Mitigation Plan](#)

FAU 1537 (71<sup>st</sup> Street)  
Section: 06-00050-00-GS  
Village of Bridgeview  
Contract #63556

## CSXT PERMIT – FACILITY ENCROACHMENT AGREEMENT

## FACILITY ENCROACHMENT AGREEMENT

THIS AGREEMENT, made effective as of November 11, 2010, by and between CSX TRANSPORTATION, INC., a Virginia corporation, whose mailing address is 500 Water Street, Jacksonville, Florida 32202, hereinafter called 'Licensor,' and VILLAGE OF BRIDGEVIEW, a municipal corporation, political subdivision or state agency, under the laws of the State of Illinois, whose mailing address is 7500 South Oketo Avenue, Bridgeview, Illinois 60455, hereinafter called 'Licensee,' WITNESSETH:

WHEREAS, Licensee desires to construct (unless previously constructed and designated as existing herein), use and maintain the below described facility(ies), hereinafter called 'Facilities,' over, under or across property owned or controlled by Licensor, at the below described location(s):

1. One (1) sixteen inch (16") diameter sub-grade pipeline crossing, solely for the conveyance of potable water, located at or near Bridgeview, Cook County, Illinois, Chicago Division, IHB Mainline Subdivision, Valuation Station 568+71, Milepost DIH-25.83;
2. One (1) eighty-four inch (84") diameter sub-grade pipeline crossing, solely for the conveyance of stormwater, located at or near Bridgeview, Cook County, Illinois, Chicago Division, IHB Mainline Subdivision, Valuation Station 568+66, Milepost DIH-25.83;

hereinafter, collectively, called the "Encroachment," as shown on print(s) labeled Exhibit 'B,' attached hereto and made a part hereof; other details and data pertaining to said Facilities being as indicated on Exhibit 'A,' also attached hereto and made a part hereof;

NOW, THEREFORE, in consideration of the mutual covenants, conditions, terms and agreements herein contained, the parties hereto agree and covenant as follows:

### 1. LICENSE:

1.1 Subject to Article 17, Licensor, insofar as it has the legal right, power and authority to do so, and its present title permits, and subject to:

(A) Licensor's present and future right to occupy, possess and use its property within the area of the Encroachment for any and all purposes;

(B) All encumbrances, conditions, covenants, easements, and limitations applicable to Licensor's title to or rights in the subject property; and

(C) Compliance by Licensee with the terms and conditions herein contained;

does hereby license and permit Licensee to construct, maintain, repair, renew, operate, use, alter or change the Facilities at the Encroachment above for the term herein stated, and to remove same upon termination.

1.2 The term Facilities, as used herein, shall include only those structures and ancillary facilities devoted exclusively to the transmission usage above within the Encroachment, and as shown on attached Facility Application Form and plan(s).

1.3 No additional structures or other facilities shall be placed, allowed, or maintained by Licensee in, upon or on the Encroachment except upon prior separate written consent of Licensor.

## **2. ENCROACHMENT FEE; TERM:**

2.1 Licensee shall pay Licensor a one-time nonrefundable Encroachment Fee of One Dollars AND 00/100 U.S. DOLLARS (\$1.00) and other good and valuable consideration, upon execution of this Agreement. Licensee agrees that the Encroachment Fee applies only to the original Licensee under this Agreement. In the event of a successor (by merger, consolidation, reorganization and/or assignment) or if the original Licensee changes its name, then Licensee shall be subject to payment of Licensor's current administrative and document preparation fees for the cost incurred by Licensor in preparing and maintaining this Agreement on a current basis.

2.2 However, Licensee assumes sole responsibility for, and shall pay directly (or reimburse Licensor), any additional annual taxes and/or periodic assessments levied against Licensor or Licensor's property solely on account of said Facilities or Encroachment.

2.3 This Agreement shall terminate as herein provided, but shall also terminate upon: (a) Licensee's cessation of use of the Facilities or Encroachment for the purpose(s) above; (b) removal of the Facilities; (c) subsequent mutual consent; and/or (d) failure of Licensee to complete installation within five (5) years from the effective date of this Agreement.

2.4 In further consideration for the license or right hereby granted, Licensee hereby agrees that Licensor shall not be charged or assessed, directly or indirectly, with any part of the cost of the installation of said Facilities and appurtenances, and/or maintenance thereof, or for any public works project of which said Facilities is a part.

## **3. CONSTRUCTION, MAINTENANCE AND REPAIRS:**

3.1 Licensee shall construct, maintain, relocate, repair, renew, alter, and/or remove the Facilities, in a prudent, workmanlike manner, using quality materials and complying with any applicable standard(s) or regulation(s) of Licensor (A.R.E.M.A. Specifications), or Licensee's particular industry, National Electrical Safety Code, or any governmental or regulatory body having jurisdiction over the Encroachment.

3.2 Location and construction of Facilities shall be made strictly in accordance with design(s) and specifications furnished to and approved by Licensor and of material(s) and size(s) appropriate for the purpose(s) above recited.

3.3 All of Licensee's work, and exercise of rights hereunder, shall be undertaken at time(s) satisfactory to Licensor, and so as to eliminate or minimize any impact on or interference with the safe use and operation of Licensor's property and appurtenances thereto.

3.4 In the installation, maintenance, repair and/or removal of said Facilities, Licensee shall not use explosives of any type or perform or cause any blasting without the separate express written consent of Licensor. As a condition to such consent, a representative will be assigned by Licensor to monitor blasting, and Licensee shall reimburse Licensor for the entire cost and/or expense of furnishing said monitor.

3.5 Any repairs or maintenance to the Facilities, whether resulting from acts of Licensee, or natural or weather events, which are necessary to protect or facilitate Licensor's use of its property, shall be made by Licensee promptly, but in no event later than thirty (30) days after Licensee has notice as to the need for such repairs or maintenance.

3.6 Licensor, in order to protect or safeguard its property, rail operations, equipment and/or employees from damage or injury, may request immediate repair or renewal of the Facilities, and if the same is not performed, may make or contract to make such repairs or renewals, at the sole risk, cost and expense of Licensee.

3.7 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

3.8 All work on the Encroachment shall be conducted in accordance with Licensor's safety rules and regulations.

3.9 Licensee hereby agrees to reimburse Licensor any loss, cost or expense (including losses resulting from train delays and/or inability to meet train schedules) arising from any failure of Licensee to make repairs or conduct maintenance as required by Section 3.5 above or from improper or incomplete repairs or maintenance to the Facilities or Encroachment.

#### **4. PERMITS, LICENSES:**

4.1 Before any work hereunder is performed, or before use of the Encroachment for the contracted purpose, Licensee, at its sole cost and expense, shall obtain all necessary permit(s) (including but not limited to zoning, building, construction, health, safety or environmental matters), letter(s) or certificate(s) of approval. Licensee expressly agrees and warrants that it shall conform and limit its activities to the terms of such permit(s), approval(s) and authorization(s), and shall comply with all applicable ordinances, rules, regulations, requirements and laws of any governmental authority (State, Federal or Local) having jurisdiction over Licensee's activities, including the location, contact, excavation and protection regulations of the Occupational Safety and Health Act (OSHA) (29 CFR 1926.651(b)), et al., and State 'One Call' - 'Call Before You Dig' requirements.

4.2 Licensee assumes sole responsibility for failure to obtain such permit(s) or approval(s), for any violations thereof, or for costs or expenses of compliance or remedy.

**5. MARKING AND SUPPORT:**

5.1 With respect to any subsurface installation or maintenance upon Licensor's property, Licensee, at its sole cost and expense, shall:

- (A) support track(s) and roadbed in a manner satisfactory to Licensor;
- (B) backfill with satisfactory material and thoroughly tamp all trenches to prevent settling of surface of land and roadbed of Licensor; and
- (C) either remove any surplus earth or material from Licensor's property or cause said surplus earth or material to be placed and distributed at location(s) and in such manner Licensor may approve.

5.2 After construction or maintenance of the Facilities, Licensee shall:

- (A) Restore any track(s), roadbed and other disturbed property; and
- (B) Erect, maintain and periodically verify the accuracy of aboveground markers, in a form approved by Licensor, indicating the location, depth and ownership of any underground Facilities or related facilities.

5.3 Licensee shall be solely responsible for any subsidence or failure of lateral or subjacent support in the Encroachment area for a period of three (3) years after completion of installation.

**6. TRACK CHANGES:**

6.1 In the event that rail operations and/or track maintenance result in changes in grade or alignment of, additions to, or relocation of track(s) or other facilities, or in the event future use of Licensor's rail corridor or property necessitate any change of location, height or depth in the Facilities or Encroachment, Licensee, at its sole cost and expense and within thirty (30) days after notice in writing from Licensor, shall make changes in the Facilities or Encroachment to accommodate such track(s) or operations.

6.2 If Licensee fails to do so, Licensor may make or contract to make such changes at Licensee's cost.

**7. FACILITY CHANGES:**

7.1 Licensee shall periodically monitor and verify the depth or height of the Facilities or Encroachment in relation to the existing tracks and facilities, and shall relocate the Facilities or change the Encroachment, at Licensee's expense, should such relocation or change be necessary to comply with the minimum clearance requirements of Licensor.

7.2 If Licensee undertakes to revise, renew, relocate or change in any manner whatsoever all or any part of the Facilities (including any change in voltage or gauge of wire or any change in circumference, diameter or radius of pipe or change in materials transmitted in and through said pipe), or is required by any public agency or court order to do so, plans therefor shall be submitted to Licensor for approval before such change. After approval, the terms and conditions of this Agreement shall apply thereto.

**8. INTERFERENCE WITH RAIL FACILITIES:**

8.1 Although the Facilities/Encroachment herein permitted may not presently interfere with Licensor's railroad or facilities, in the event that the operation, existence or maintenance of said Facilities, in the sole judgment of Licensor, causes: (a) interference (including, but not limited to, physical or interference from an electromagnetic induction, or interference from stray or other currents) with Licensor's power lines, communication, signal or other wires, train control system, or electrical or electronic apparatus; or (b) interference in any manner, with the operation, maintenance or use of the rail corridor, track(s), structures, pole line(s), devices, other property, or any appurtenances thereto; then and in either event, Licensee, upon receipt of written notice from Licensor of any such interference, and at Licensee's sole risk, cost and expense, shall promptly make such changes in its Facilities or installation, as may be required in the reasonable judgment of the Licensor to eliminate all such interference. Upon Licensee's failure to remedy or change, Licensor may do so or contract to do so at Licensee's sole cost.

8.2 Without assuming any duty hereunder to inspect the Facilities, Licensor hereby reserves the right to inspect same and to require Licensee to undertake repairs, maintenance or adjustments to the Facilities, which Licensee hereby agrees to make promptly, at Licensee's sole cost and expense.

**9. RISK, LIABILITY, INDEMNITY:**

With respect to the relative risk and liabilities of the parties, it is hereby agreed that:

9.1 To the fullest extent permitted by State law (constitutional or statutory, as amended), Licensee hereby agrees to, defend, indemnify, and hold Licensor harmless from and against any and all liability, loss, claim, suit, damage, charge or expense which Licensor may suffer, sustain, incur or in any way be subjected to, on account of death of or injury to any person whomsoever (including officers, agents, employees or invitees of Licensor), and for damage to or loss of or destruction of any property whatsoever, arising out of, resulting from, or in any way connected with the construction, repair, maintenance, replacement, presence, existence,

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operations, use or removal of the Facilities or any structure in connection therewith, or restoration of premises of Licensor to good order or condition after removal, EXCEPT when proven to have been caused solely by the willful misconduct or gross negligence of Licensor. HOWEVER, to the fullest extent permitted by State law, during any period of actual construction, repair, maintenance, replacement or removal of the Facilities, wherein agents, equipment or personnel of Licensee are on the railroad rail corridor, Licensee's liability hereunder shall be absolute, irrespective of any joint, sole or contributory fault or negligence of Licensor.

9.2 Use of Licensor's rail corridor involves certain risks of loss or damage as a result of the rail operations. Notwithstanding Section 9.1, Licensee expressly assumes all risk of loss and damage to Licensee's Property or the Facilities in, on, over or under the Encroachment, including loss of or any interference with use or service thereof, regardless of cause, including electrical field creation, fire or derailment resulting from rail operations. For this Section, the term 'Licensee's Property' shall include property of third parties situated or placed upon Licensor's rail corridor by Licensee or by such third parties at request of or for benefit of Licensee.

9.3 To the fullest extent permitted by State law, as above, Licensee assumes all responsibility for, and agrees to defend, indemnify and hold Licensor harmless from: (a) all claims, costs and expenses, including reasonable attorneys' fees, as a consequence of any sudden or nonsudden pollution of air, water, land and/or ground water on or off the Encroachment area, arising from or in connection with the use of this Encroachment or resulting from leaking, bursting, spilling, or any escape of the material transmitted in or through the Facilities; (b) any claim or liability arising under federal or state law dealing with either such sudden or nonsudden pollution of air, water, land and/or ground water arising therefrom or the remedy thereof; and (c) any subsidence or failure of lateral or subjacent support of the tracks arising from such Facilities leakage.

9.4 Notwithstanding Section 9.1, Licensee also expressly assumes all risk of loss which in any way may result from Licensee's failure to maintain either required clearances for any overhead Facilities or the required depth and encasement for any underground Facilities, whether or not such loss(es) result(s) in whole or part from Licensor's contributory negligence or joint fault.

9.5 Obligations of Licensee hereunder to release, indemnify and hold Licensor harmless shall also extend to companies and other legal entities that control, are controlled by, subsidiaries of, or are affiliated with Licensor, as well as any railroad that operates over the rail corridor on which the Encroachment is located, and the officers, employees and agents of each.

9.6 If a claim is made or action is brought against Licensor, and/or its operating lessee, for which Licensee may be responsible hereunder, in whole or in part, Licensee shall be notified to assume the handling or defense of such claim or action; but Licensor may participate in such handling or defense.

9.7 Notwithstanding anything contained in this Agreement, the limitation of liability contained in the state statutes, as amended from time to time, shall not limit Licensor's ability to collect under the insurance policies required to be maintained under this Agreement.

## 10. INSURANCE:

10.1 Prior to commencement of surveys, installation or occupation of premises pursuant to this Agreement, Licensee shall procure and shall maintain during the continuance of this Agreement, at its sole cost and expense, a policy of Commercial General Liability Insurance (CGL), naming Licensor, and/or its designee, as additional insured and covering liability assumed by Licensee under this Agreement. A coverage limit of not less than THREE MILLION AND 00/100 U.S. DOLLARS (\$3,000,000.00) Combined Single Limit per occurrence for bodily injury liability and property damage liability is currently required as a prudent minimum to protect Licensee's assumed obligations. The evidence of insurance coverage shall be endorsed to provide for thirty (30) days' notice to Licensor, or its designee, prior to cancellation or modification of any policy. Mail CGL certificate, along with agreement, to CSX Transportation, Inc., Speed Code J180, 500 Water Street, Jacksonville, FL 32202. On each successive year, send certificate to Speed Code C907 at the address listed above.

10.2 If Licensee's existing CGL policy(ies) do(es) not automatically cover Licensee's contractual liability during periods of survey, installation, maintenance and continued occupation, a specific endorsement adding such coverage shall be purchased by Licensee. If said CGL policy is written on a 'claims made' basis instead of a 'per occurrence' basis, Licensee shall arrange for adequate time for reporting losses. Failure to do so shall be at Licensee's sole risk.

10.3 Licensor, or its designee, may at any time request evidence of insurance purchased by Licensee to comply with this Agreement. Failure of Licensee to comply with Licensor's request shall be considered a default by Licensee.

10.4 Securing such insurance shall not limit Licensee's liability under this Agreement, but shall be security therefor.

10.5 (A) In the event Licensee finds it necessary to perform construction or demolition operations within fifty feet (50') of any operated railroad track(s) or affecting any railroad bridge, trestle, tunnel, track(s), roadbed, overpass or underpass, Licensee shall: (a) notify Licensor; and (b) require its contractor(s) performing such operations to procure and maintain during the period of construction or demolition operations, at no cost to Licensor, Railroad Protective Liability (RPL) Insurance, naming Licensor, and/or its designee, as Named Insured, written on the current ISO/RIMA Form (ISO Form No. CG 00 35 01 96) with limits of FIVE MILLION AND 00/100 U.S. DOLLARS (\$5,000,000.00) per occurrence for bodily injury and property damage, with at least TEN MILLION AND 00/100 U.S. DOLLARS (\$10,000,000.00) aggregate limit per annual policy period, with Pollution Exclusion Amendment (ISO CG 28 31 11 85) if an older ISO Form CG 00 35 is used. The original of such RPL policy shall be sent to and approved by Licensor prior to commencement of such construction or demolition. Licensor reserves the right to demand higher limits.

(B) At Licensor's option, in lieu of purchasing RPL insurance from an insurance company (but not CGL insurance), Licensee may pay Licensor, at Licensor's current rate at time of request, the cost of adding this Encroachment, or additional construction and/or demolition activities, to Licensor's Railroad Protective Liability (RPL) Policy for the period of actual construction. This coverage is offered at Licensor's discretion and may not be available under all circumstances.

10.6 Notwithstanding the provisions of Sections 10.1 and 10.2, Licensee, pursuant to State Statute(s), may self-insure or self-assume, in any amount(s), any contracted liability arising under this Agreement, under a funded program of self-insurance, which fund will respond to liability of Licensee imposed by and in accordance with the procedures established by law.

## **11. GRADE CROSSINGS; FLAGGING:**

11.1 Nothing herein contained shall be construed to permit Licensee or Licensee's contractor to move any vehicles or equipment over the track(s), except at public road crossing(s), without separate prior written approval of Licensor (CSXT Form 7422).

11.2 If Licensor deems it advisable, during any construction, maintenance, repair, renewal, alteration, change or removal of said Facilities, to place watchmen, flagmen, inspectors or supervisors for protection of operations of Licensor or others on Licensor's rail corridor at the Encroachment, and to keep persons, equipment or materials away from the track(s), Licensor shall have the right to do so at the expense of Licensee, but Licensor shall not be liable for failure to do so.

11.3 Subject to Licensor's consent and to Licensor's Railroad Operating Rules and labor agreements, Licensee may provide flagmen, watchmen, inspectors or supervisors during all times of construction, repair, maintenance, replacement or removal, at Licensee's sole risk and expense; and in such event, Licensor shall not be liable for the failure or neglect of such watchmen, flagmen, inspectors or supervisors.

## **12. LICENSOR'S COSTS:**

12.1 Any additional or alternative costs or expenses incurred by Licensor to accommodate Licensee's continued use of Licensor's property as a result of track changes or wire changes shall also be paid by Licensee.

12.2 Licensor's expense for wages ('force account' charges) and materials for any work performed at the expense of Licensee pursuant hereto shall be paid by Licensee within thirty (30) days after receipt of Licensor's bill therefor. Licensor may, at its discretion, request an advance deposit for estimated Licensor costs and expenses.

12.3 Such expense shall include, but not be limited to, cost of railroad labor and supervision under 'force account' rules, plus current applicable overhead percentages, the actual cost of materials, and insurance, freight and handling charges on all material used. Equipment

rentals shall be in accordance with Licensor's applicable fixed rate. Licensor may, at its discretion, require advance deposits for estimated costs of such expenses and costs.

**13. DEFAULT, BREACH, WAIVER:**

13.1 The proper and complete performance of each covenant of this Agreement shall be deemed of the essence thereof, and in the event Licensee fails or refuses to fully and completely perform any of said covenants or remedy any breach within thirty (30) days after receiving written notice from Licensor to do so (or within forty-eight (48) hours in the event of notice of a railroad emergency), Licensor shall have the option of immediately revoking this Agreement and the privileges and powers hereby conferred, regardless of encroachment fee(s) having been paid in advance for any annual or other period. Upon such revocation, Licensee shall make removal in accordance with Article 14.

13.2 No waiver by Licensor of its rights as to any breach of covenant or condition herein contained shall be construed as a permanent waiver of such covenant or condition, or any subsequent breach thereof, unless such covenant or condition is permanently waived in writing by Licensor.

13.3 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

**14. TERMINATION, REMOVAL:**

14.1 All rights which Licensee may have hereunder shall cease upon the date of (a) termination, (b) revocation, or (c) subsequent agreement, or (d) Licensee's removal of the Facility from the Encroachment. However, neither termination nor revocation of this Agreement shall affect any claims and liabilities which have arisen or accrued hereunder, and which at the time of termination or revocation have not been satisfied; neither party, however, waiving any third party defenses or actions.

14.2 Within thirty (30) days after revocation or termination, Licensee, at its sole risk and expense, shall (a) remove the Facilities from the rail corridor of Licensor, unless the parties hereto agree otherwise, (b) restore the rail corridor of Licensor in a manner satisfactory to Licensor, and (c) reimburse Licensor any loss, cost or expense of Licensor resulting from such removal.

**15. NOTICE:**

15.1 Licensee shall give Licensor at least thirty (30) days written notice before doing any work on Licensor's rail corridor, except that in cases of emergency shorter notice may be given. Licensee shall provide proper notification as follows:

a. For non-emergencies, Licensee shall complete and submit Licensor's Outside Party Number Request Form (Form # OP) by facsimile, to facsimile numbers: (904) 245-3692 and (904) 633-3450. Licensee may also scan and email a completed form to email address: OP\_Request@csx.com. A blank form, as well as additional instructions and information, can be obtained from Licensor's web site, via web link: [http://www.csx.com/fuseaction=aboutproperty\\_corridor%20#scheduling](http://www.csx.com/fuseaction=aboutproperty_corridor%20#scheduling).

b. For emergencies, Licensee shall complete all of the steps outlined in Section 15.1 a. above, and shall also include detailed information of the emergency. Licensee shall also call and report details of the emergency to Licensor's Rail Operations Emergency Telephone Number: 1-800-232-0144. In the event Licensor needs to contact Licensee concerning an emergency involving Licensee's Facility(ies), the emergency phone number for Licensee is: 708-924-8051.

15.2 All other notices and communications concerning this Agreement shall be addressed to Licensee at the address above, and to Licensor at the address shown on Page 1, c/o CSXT Contract Management, J180; or at such other address as either party may designate in writing to the other.

15.3 Unless otherwise expressly stated herein, all such notices shall be in writing and sent via Certified or Registered Mail, Return Receipt Requested, or by courier, and shall be considered delivered upon: (a) actual receipt, or (b) date of refusal of such delivery.

## 16. ASSIGNMENT:

16.1 The rights herein conferred are the privileges of Licensee only, and Licensee shall obtain Licensor's prior written consent to any assignment of Licensee's interest herein; said consent shall not be unreasonably withheld.

16.2 Subject to Sections 2 and 16.1, this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors or assigns.

16.3 Licensee shall give Licensor written notice of any legal succession (by merger, consolidation, reorganization, etc.) or other change of legal existence or status of Licensee, with a copy of all documents attesting to such change or legal succession, within thirty (30) days thereof.

16.4 Licensor expressly reserves the right to assign this Agreement, in whole or in part, to any grantee, lessee, or vendee of Licensor's underlying property interests in the Encroachment, upon written notice thereof to Licensee.

16.5 In the event of any unauthorized sale, transfer, assignment, sublicense or encumbrance of this Agreement, or any of the rights and privileges hereunder, Licensor, at its option, may revoke this Agreement by giving Licensee or any such assignee written notice of such revocation; and Licensee shall reimburse Licensor for any loss, cost or expense Licensor may incur as a result of Licensee's failure to obtain said consent.

**17. TITLE:**

17.1 Licensee understands that Licensor occupies, uses and possesses lands, rights-of-way and rail corridors under all forms and qualities of ownership rights or facts, from full fee simple absolute to bare occupation. Accordingly, nothing in this Agreement shall act as or be deemed to act as any warranty, guaranty or representation of the quality of Licensor's title for any particular Encroachment or segment of Rail Corridor occupied, used or enjoyed in any manner by Licensee under any rights created in this Agreement. It is expressly understood that Licensor does not warrant title to any Rail Corridor and Licensee will accept the grants and privileges contained herein, subject to all lawful outstanding existing liens, mortgages and superior rights in and to the Rail Corridor, and all leases, licenses and easements or other interests previously granted to others therein.

17.2 The term 'license,' as used herein, shall mean with regard to any portion of the Rail Corridor which is owned by Licensor in fee simple absolute, or where the applicable law of the State where the Encroachment is located otherwise permits Licensor to make such grants to Licensee, a 'permission to use' the Rail Corridor, with dominion and control over such portion of the Rail Corridor remaining with Licensor, and no interest in or exclusive right to possess being otherwise granted to Licensee. With regard to any other portion of Rail Corridor occupied, used or controlled by Licensor under any other facts or rights, Licensor merely waives its exclusive right to occupy the Rail Corridor and grants no other rights whatsoever under this Agreement, such waiver continuing only so long as Licensor continues its own occupation, use or control. Licensor does not warrant or guarantee that the license granted hereunder provides Licensee with all of the rights necessary to occupy any portion of the Rail Corridor. Licensee further acknowledges that it does not have the right to occupy any portion of the Rail Corridor held by Licensor in less than fee simple absolute without also receiving the consent of the owner(s) of the fee simple absolute estate. Further, Licensee shall not obtain, exercise or claim any interest in the Rail Corridor that would impair Licensor's existing rights therein.

17.3 Licensee agrees it shall not have nor shall it make, and hereby completely and absolutely waives its right to, any claim against Licensor for damages on account of any deficiencies in title to the Rail Corridor in the event of failure or insufficiency of Licensor's title to any portion thereof arising from Licensee's use or occupancy thereof.

17.4 Licensee agrees to fully and completely indemnify and defend all claims or litigation for slander of title, overburden of easement, or similar claims arising out of or based upon the Facilities placement, or the presence of the Facilities in, on or along any Encroachment(s), including claims for punitive or special damages.

17.5 Licensee shall not at any time own or claim any right, title or interest in or to Licensor's property occupied by the Encroachments, nor shall the exercise of this Agreement for any length of time give rise to any right, title or interest in Licensee to said property other than the license herein created.

17.6 Nothing in this Agreement shall be deemed to give, and Licensor hereby expressly waives, any claim of ownership in and to any part of the Facilities.

17.7 Licensee shall not create or permit any mortgage, pledge, security, interest, lien or encumbrances, including without limitation, tax liens and liens or encumbrances with respect to work performed or equipment furnished in connection with the construction, installation, repair, maintenance or operation of the Facilities in or on any portion of the Encroachment (collectively, 'Liens or Encumbrances'), to be established or remain against the Encroachment or any portion thereof or any other Licensor property.

17.8 In the event that any property of Licensor becomes subject to such Liens or Encumbrances, Licensee agrees to pay, discharge or remove the same promptly upon Licensee's receipt of notice that such Liens or Encumbrances have been filed or docketed against the Encroachment or any other property of Licensor; however, Licensee reserves the right to challenge, at its sole expense, the validity and/or enforceability of any such Liens or Encumbrances.

## 18. GENERAL PROVISIONS:

18.1 This Agreement, and the attached specifications, contains the entire understanding between the parties hereto.

18.2 Neither this Agreement, any provision hereof, nor any agreement or provision included herein by reference, shall operate or be construed as being for the benefit of any third person.

18.3 Except as otherwise provided herein, or in any Rider attached hereto, neither the form of this Agreement, nor any language herein, shall be interpreted or construed in favor of or against either party hereto as the sole drafter thereof.

18.4 This Agreement is executed under current interpretation of applicable Federal, State, County, Municipal or other local statute, ordinance or law(s). However, each separate division (paragraph, clause, item, term, condition, covenant or agreement) herein shall have independent and severable status for the determination of legality, so that if any separate division is determined to be void or unenforceable for any reason, such determination shall have no effect upon the validity or enforceability of each other separate division, or any combination thereof.

18.5 This Agreement shall be construed and governed by the laws of the state in which the Facilities and Encroachment are located.

18.6 If any amount due pursuant to the terms of this Agreement is not paid by the due date, it will be subject to Licensor's standard late charge and will also accrue interest at eighteen percent (18%) per annum, unless limited by local law, and then at the highest rate so permitted.

18.7 Licensee agrees to reimburse Licensor for all reasonable costs (including attorney's fees) incurred by Licensor for collecting any amount due under the Agreement.

18.8 The provisions of this License are considered confidential and may not be disclosed to a third party without the consent of the other party(s), except: (a) as required by statute, regulation or court order, (b) to a parent, affiliate or subsidiary company, (c) to an auditing firm or legal counsel that are agreeable to the confidentiality provisions, or (d) to Lessees of Licensor's land and/or track who are affected by the terms and conditions of this Agreement and will maintain the confidentiality of this Agreement.

18.9 Licensor shall refund to Licensee any overpayments collected, plus any taxes paid in advance; PROVIDED, however, such refund shall not be made when the cumulative total involved is less than One Hundred Dollars (\$100.00).

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate (each of which shall constitute an original) as of the effective date of this Agreement.

**Witness for Licensor:**

**CSX TRANSPORTATION, INC.**

\_\_\_\_\_

By: \_\_\_\_\_

Print/Type Name: \_\_\_\_\_

Print/Type Title: \_\_\_\_\_

**Witness for Licensee:**

**VILLAGE OF BRIDGEVIEW**

\_\_\_\_\_

By: \_\_\_\_\_

Who, by the execution hereof, affirms that he/she has the authority to do so and to bind the Licensee to the terms and conditions of this Agreement.

Print/Type Name: \_\_\_\_\_

Print/Type Title: \_\_\_\_\_

Tax ID No.: \_\_\_\_\_

Authority under Ordinance or

Resolution No. \_\_\_\_\_,

Dated \_\_\_\_\_.

344



Print Form
Reset Form

Mail To: CSX Transportation, Inc.  
 ATTN: Corridor Occupancy Services  
 500 Water Street, J-180  
 Jacksonville, FL 32202

FORM CSXT #A01 03/30/09

Page 1 of 2

Submittal Must Include Drawing(s) and Review Fee(s)

## APPLICATION FOR FACILITY/UTILITY INSTALLATIONS

Application Date: 5/27/2010

CSXT File/Agreement Number: CSX657761

### SECTION 1: FACILITY OWNER INFORMATION TO BE COMPLETED BY APPLICANT

Owner/Legal Company Identification (required)

Owner's Complete Legal Company Name:	Village of Bridgeview		
Legal Address (1):	7500 South Oketo Avenue		
Legal Address (2):			
City:	Bridgeview	State:	Illinois
		Zip:	60455
Business Type:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Limited Liability Company	<input type="checkbox"/> Limited Partnership
	<input checked="" type="checkbox"/> Municipality	<input type="checkbox"/> Limited Liability Partnership	<input type="checkbox"/> General Partnership
State of Incorporation:	Other Business Type - Describe:		

Billing Address

(Check box if same as above) if not, please complete below.

Billing Address (1):			
Billing Address (2):			
City:		State:	
		Zip:	

Exhibit "A"  
 Sheet 1 of 3  
 CSXT File No. CSX657761

CSX Real Estate Engineering  
 Engineering Design Approved  
 By: *Charles P. B...*  
 Date: *10/25/10*

Owner Contact Information

Contact Name:	Bill Cronch	Contact Title:	Director of Public Works
Office Phone:	708-924-8051	Ext.:	
		Mobile Phone:	708-259-7616
Email:	bcronch@villageofbridgeview.com	Emergency Phone:	

### SECTION 2: PROJECT CONTACT INFORMATION TO BE COMPLETED BY APPLICANT

- Check here if address is the same as legal address above.
- If not the same as above, check here if agreement should be mailed to this address.

Project Engineer/Consultant/Agent Information

Engineer/Consultant/Agent Company Name:	Robinson Engineering Ltd.		
Contact Name:	Ronald Wiedeman		
Mailing Address:	17000 South Park Avenue		
City:	South Holland	State:	Illinois
		Zip:	60473
Office Phone:	708-225-8218	Mobile Phone:	708-473-4972
Email:	rwiedeman@reltd.com		

176

84"



# Application for Facility/Utility Installation

FORM CSXT #A01 03/30/09

Page 2 of 2

## SECTION 3: PROJECT INFORMATION/LOCATION TO BE COMPLETED BY APPLICANT

**Project Reference**

Is this covered by an existing CSX permit/agreement or master agreement:

Yes      Provide Agreement # and/or date: **Need to be provided by CSX, Village does not have.**

No

Is this project related to another transaction/project with CSX:

Yes      Describe:

No

Provide utility owner project reference number: \_\_\_\_\_

### Project Scope

Check box to indicate type of installation request:

New Installation Request

Upgrade/Replacement/Relocation of Existing Facilities

Will proposed installation connect to an existing facility within railroad corridor:

Yes      Provide name of connecting facility owner:

No

Check all boxes that apply to indicate type of installation request:

Sub-grade

Aerial

If "Sub-grade," check all boxes that apply to indicate proposed method of installation:

Jack & Bore

Horizontal Directional Drill

Other      Describe:

### Project Description

Description / Scope (Include: purpose, scope of work, materials, equipment, geographic features, special conditions):

This project will consist of the jacking of a new 84" storm sewer to replace the existing 84" storm sewer that is located in the pavement of 71st. This work is an advance project which will relocate existing utility that will be in conflict with the proposed grade separation project that is to begin in early 2011 at this existing at grade crossing. The project within CSX right of way will consist of installing a new 84" storm sewer by jacking in the south right parkway approximately 9.3 ft. below the lowest existing rail elevation. The jacking and receiving pits will be located 30 ft. and 32 ft. respectively outside of the existing railroad right of way. The pipe that will be jacked will be a concrete pipe according to ASTM C76-Wall B (8" wall thickness). The joints will consist of a push on joint with gaskets per ASTM C 443. The maximum working pressure of the pipe will be 60 psi. Access manholes will be located 182 ft west and 340 east of the existing rail road right of way. No cathodic protection will be required. the total length of the pipe within railroad right of way is 66 ft.

**Exhibit "A"**  
 Sheet 2 of 3  
 CSXT File No. CSX057761

**CSX Real Estate Engineering**  
 Engineering Design Approved  
 By: [Signature]  
 Date: 10/25/10

### Project Location

City: Village of Bridgeview	County: Cook	State: Illinois
-----------------------------	--------------	-----------------

Will facility installation be located entirely within public road right-of-way:

Yes      Provide AAR/DOT Crossing Inventory Number of Road (posted at crossing): **163.586J**

No

177

309



# Application for Facility/Utility Installation

FORM CSXT #A01 03/30/09

Page 2 of 2

## SECTION 3: PROJECT INFORMATION/LOCATION TO BE COMPLETED BY APPLICANT

**Project Reference**

Is this covered by an existing CSX permit/agreement or master agreement:  
 Yes      Provide Agreement # and/or date: **Need to be provided by CSX. Village does not have.**  
 No

Is this project related to another transaction/project with CSX:  
 Yes      Describe:  
 No

Provide utility owner project reference number: \_\_\_\_\_

**Project Scope**

Check box to indicate type of installation request:  
 New Installation Request  
 Upgrade/Replacement/Relocation of Existing Facilities

Will proposed installation connect to an existing facility within railroad corridor:  
 Yes      Provide name of connecting facility owner:  
 No

Check all boxes that apply to indicate type of installation request:  
 Sub-grade  
 Aerial

If "Sub-grade," check all boxes that apply to indicate proposed method of installation:  
 Jack & Bore  
 Horizontal Directional Drill  
 Other      Describe:

**Project Description**

Description / Scope (Include: purpose, scope of work, materials, equipment, geographic features, special conditions):  
 This project will consist of the jack and bore of a new 30" steel casing pipe and the installation of a 16" water main in this new casing pipe in order to replace an existing 16" water main that is located in the north parkway of 71st Street. This work is an advance project which will relocate existing utility that will be in conflict with the proposed grade separation project that is to begin in early 2011 at this existing at grade crossing. The project within CSX right of way will consist of installing by jack and bore of a new 30" steel casing pipe in the south right of way and the installation of a 16" water main in this new casing pipe. The top of the casing pipe will be approximately 9.8 ft. below the lowest existing rail elevation. The jacking and receiving pits will be located 99 ft. and 90 ft. respectively outside of the existing railroad right of way. The pipe that will be jacked will be a 30" steel pipe with a minimum yield strength of 35,000 psi and a wall thickness of 0.469 inches. The joints will be welded and the length the the casing will be 66 ft. The 16" water main that will be placed in this casing pipe will be a Ductile Iron pipe, class 52 with a minimum yield strength of 35, 000 psi and a wall thickness of 0.4 inches. The joints will be pushed on and the length of the pipe within the railroad right of way is 66ft. The maximum working pressure of the pipe will be 60 psi. Access valves will be located 104 ft west and 530 east of the existing rail road right of way. No cathodic protection will be required.

**Exhibit "A"**  
 Sheet 3 of 3  
 CSXT File No. CSX057761

**CSX New State Engineering**  
 Engineering Design Approved  
 By: *[Signature]*  
 Date: 10/25/10

**Project Location**

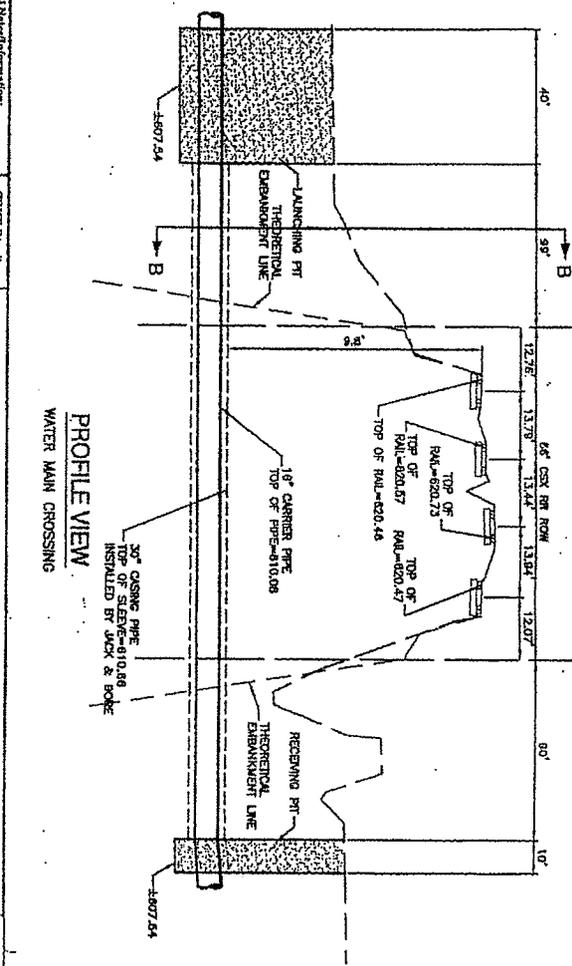
City: Village of Bridgeview	County: Cook	State: Illinois
-----------------------------	--------------	-----------------

Will facility installation be located entirely within public road right-of-way:  
 Yes      Provide AAR/DOT Crossing Inventory Number of Road (posted at crossing): **163.586J**  
 No

178



ITEM 1 : 30" CASTING



NOTES  
CSX657761

JACKING WILL CONTINUE ON 12 HOUR  
PRESSURE UNIT WORK WITHIN BARBADO ROAD  
IS COMPLETED.  
THE 30" CASING PIPE SHALL BE INSTALLED BY  
JACK AND BORE METHOD ACCORDING TO  
CAST DESIGN AND CONSTRUCTION  
STANDARD SPECIFICATIONS Pg 24, AL 3 AND  
Pg 24, AL 11 (8-50)

Exhibit "B"  
Sheet 2 of 6  
CSXT File No. CSX657761

CSX Field Estimator  
Engineering Designer Approved  
By: [Signature]  
Date: [Date]

CASING PIPE ENDS WILL BE SEALED IN  
ACCORDANCE WITH CSXT SPEC.  
CSXT 79 (ENR) 37 (ENR) PAGE 19-2

PIPELINE CONTENT DETAILS

Commodity Description: POTABLE WATER	
Maximum Operating Pressure: 68 PSI	Is Corrosively Harmful: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
CARRIER/CASING PIPE DETAILS	
Page 11, C1 & 12, D1	Pipe Material: DUCTILE IRON
Page 11, C1 & 12, D1	Material Specifications & Grade: CLASS 51
Page 11, C1 & 12, D1	Specified Minimum Yield Strength: 35,000 PSI
Page 11, C1 & 12, D1	Nominal Size Outside Diameter (Outside): 18"
Page 11, C1 & 12, D1	Wall Thickness (Outside): 4.5"
Page 11, C1 & 12, D1	Type of Joint: WELDED
Page 11, C1 & 12, D1	Tunnel/Liner Piles Formed: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Page 11, C1 & 12, D1	Cathodic Protection: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Page 11, C1 & 12, D1	Protective Coating: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Page 11, C1 & 12, D1	Temp. Track Shipped or Rip-top Temp: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Page 11, C1 & 12, D1	Manholes/Offsets & Show on Drawing: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes

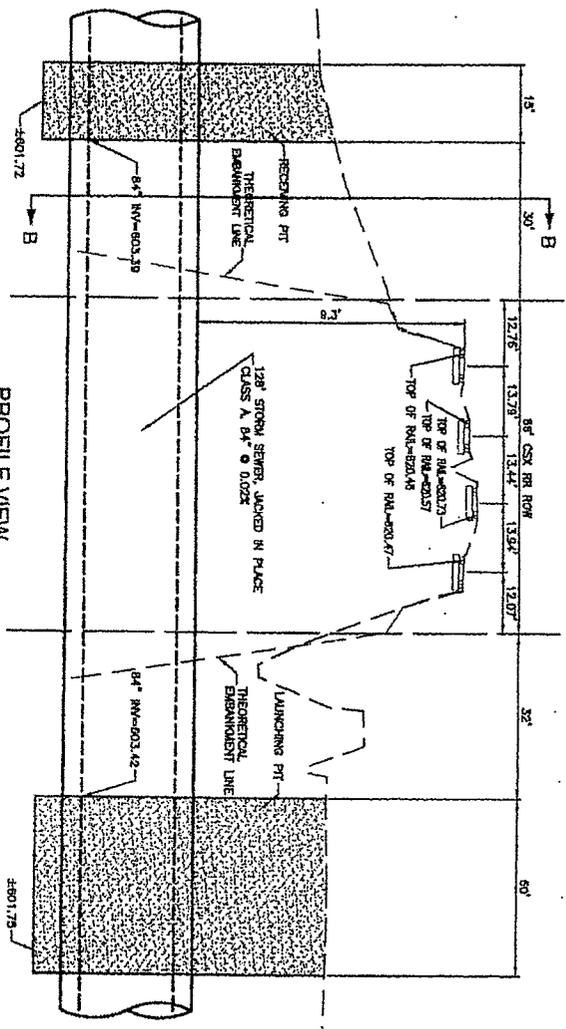


PREPARED BY: [Signature]  
Location: 71ST STREET @ CSX  
DOT CROSSING NO. 1654041  
Latitude: N 41° 41' 28"  
Longitude: W 81° 29' 00"  
Drawing No.: 99343-ENR09-RS-01 Sheet 2 of 3  
Drawing Date: Jan 1, 2010 Last Revised: Aug 6, 2018  
Drawing Scale: 1" = 5' Feet  
Drawing Scale: H 1" = 50' Feet

081

ITEM 2 : 100' RCP

NOTES  
CSX457161



PROFILE VIEW  
STORM SEWER CROSSING

WIRE/CABLE DETAILS		CASING PIPE DETAILS	
Type	Spec. Reference	Pipe Material	CONCRETE PIPE
<input type="checkbox"/> Electric	Page 11, Q1, 4, 12, 19	Material Specifications & Grade	ASTM C76
<input type="checkbox"/> Cable TV	Page 11, Q1, 4, 12, 19	Specified Minimum Yield Strength	PSI ASTM C76
<input type="checkbox"/> Aluminum/Copper	Page 11, Q1, 4, 12, 19	Nominal Size (Outer Diameter (Inches))	100"
<input type="checkbox"/> Fiber Optic	Page 11, Q1, 4, 12, 19	Wall Thickness (Inches)	1"
<input type="checkbox"/> Other - Describe:	Page 11, Q1, 4, 12, 19	Type of Seals	
Wire Cable 1	Page 11, Q1, 4, 12, 19	Tuned Liner Piles Required	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Wire Cable 2	Page 11, Q1, 4, 12, 19	Temp. Track Support or Re-Shop Req.	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - Mark Details & Show on Drawing
Wire Cable 3	Page 11, Q1, 4, 12, 19		
Other Cable Cores	Page 11, Q1, 4, 12, 19		
Voltage	Page 11, Q1, 4, 12, 19		
If options above not applicable, describe Number of Poles (Electric Only)	Page 11, Q1, 4, 12, 19		

JACKING WILL CONTINUE ON A 24 HOUR BASIS UNTIL WORK WITHIN RADIUS OF R.C.W. IS COMPLETED.  
THE 10" RCP SHALL BE INSTALLED BY JACKING ACCORDING TO CSXT DESIGN AND CONSTRUCTION STANDARD SPECIFICATIONS Pg 25, A1, B1, (a)-(d)

CASING PIPE SHALL BE GRADED TO CONFORMANCE WITH CSXT SPEC'S BUT PERMITS SECTION 1902.17.10

CSXT Panel Designer: *[Signature]*  
 Entering Design Approved  
 By: *[Signature]*  
 Date: *[Date]*



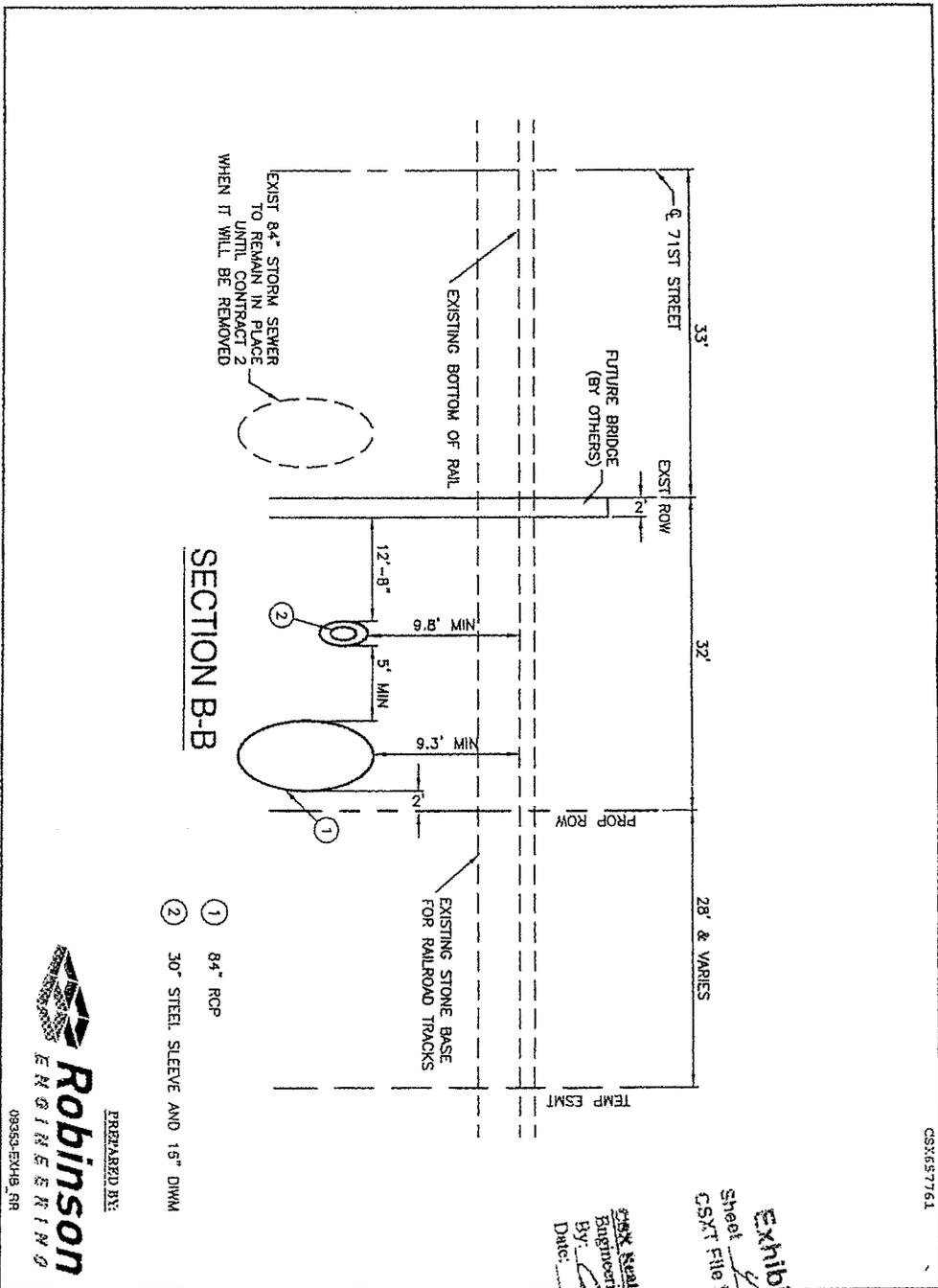
Exhibit "B"  
 Sheet 3 of 6  
 CSXT File No. 251157711

128 STREETS @ CSXT  
 DOT CONSTRUCTION NO. 1005004

Location: 128 STREETS @ CSXT  
 Labeled: N 41° 41' 30"  
 Loophole: W 87° 39' 10"  
 Drawing No.: 2935-EXHIBIT-B  
 Drawing Date: Jun 1, 2010  
 Drawing Scale: V 1" = 5' Feet  
 Drawing Date: Aug 6, 2010  
 Drawing Scale: H 1" = 50' Feet

Exhibit B  
Sheet 2 of 6  
CSX657761

Check Keel Estate Engineering  
Engineering Design Approved  
By: *[Signature]*  
Date: *[Signature]*



PREPARED BY:  
09353-EXH-B\_SBB

CSX557761

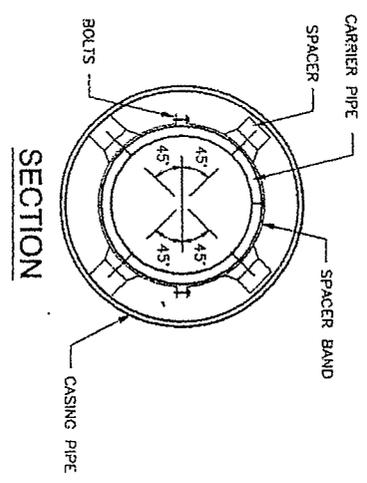
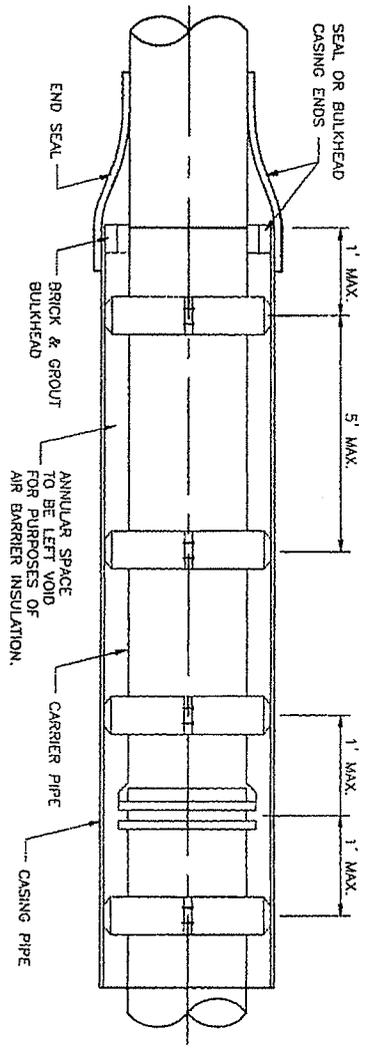


Exhibit "B"  
 Sheet 5 of 6  
 CSXT File No. CSX&S-7761

CSX René Fatsse, Engineer  
 Engineering Design Approved  
 By: *[Signature]*  
 Date: 10/15/78



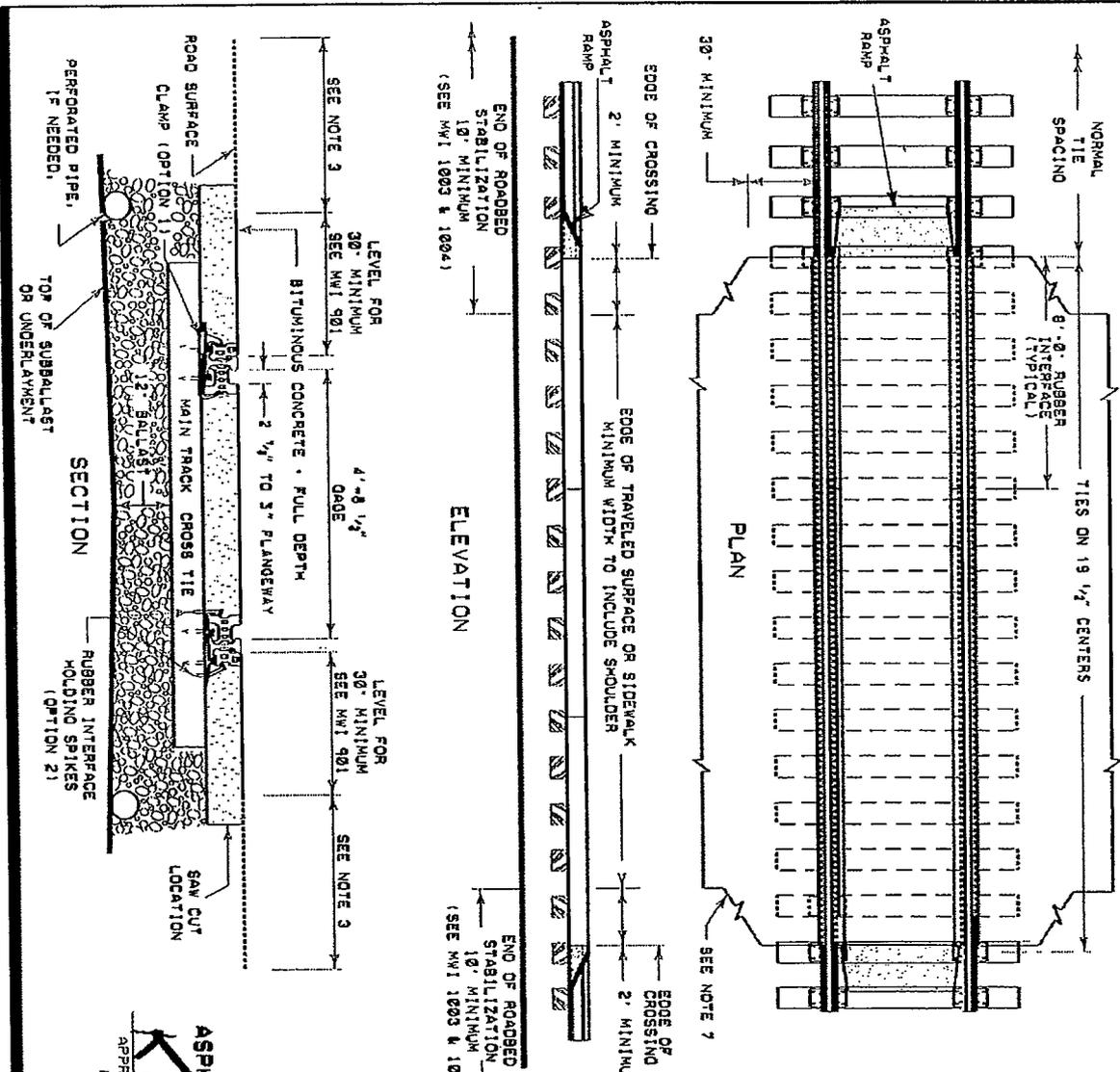
**CASING SPACER INSTALLATION**

PREPARED BY:  
**Robinson**  
 ENGINEERING  
 09353-EXH9 RR



FAU 1537 (71<sup>st</sup> Street)  
Section: 06-00050-00-GS  
Village of Bridgeview  
Contract #63556

**CSXT LIGHT DUTY ROAD CROSSING ASPHALT AND RUBBER INTERFACE ON WOOD  
TIES STANDARD DRAWING**



NOTES

2521

1. MWI 901 (LATEST REVISION) IS TO BE USED IN CONJUNCTION WITH THIS DRAWING.
2. FOR NEW CONSTRUCTION, HIGHWAY SHOULD INTERSECT RAILROAD AT OR NEARLY RIGHT ANGLE.
3. FOR NEW CONSTRUCTION, HIGHWAY SURFACE SHOULD NOT BE MORE THAN 3' HIGHER OR LOWER THAN TOP OF THE NEAR RAIL 30' FROM THE RAIL ALONG THE ROAD CENTERLINE, UNLESS TRACK SUPERELEVATION DICTATES OTHERWISE.
4. USE STATE D.O.T. SPECIFICATIONS FOR BITUMINOUS CONCRETE AND ASPHALT SPRAY TACK COAT FOR THE STATE IN WHICH THE CROSSING IS LOCATED.
5. CROSSINGS SHOULD BE CONTINUOUS BETWEEN ROADWAY OR SIDEWALK EDGES. IF NOT PRACTICABLE, ADEQUATE DRAINAGE MUST BE PROVIDED BETWEEN CROSSING AREAS TO ELIMINATE WATER POCKETS.
6. USE TWO CLAMPS PER CR18 OR FOUR (4) RUBBER INTERFACE HOLDING SPIKES PER TIE.
7. GULPS SAVING TO RETURN TO ORIGINAL PAVEMENT SURFACE CONDITIONS WILL DEPEND ON LOCAL CONDITIONS. USE A RUNOFF OF 1 IN. PER 10 FT., WHERE PRACTICABLE.
8. IF ROADBED STABILIZATION IS REQUIRED, EXTEND 1' TO 10 FT., BEYOND EDGE OF CROSSING UNDER TRACK.
9. PERFORATED PIPE TO BE SIZED AND LOCATED FOR SITE CONDITIONS. USE MIN. 6" DIA. TIE AND LOCATE AT LEAST 12' BEYOND THE END OF TIE.

ITEM NO.	RAIL NOT.	DESCRIPTION
014 5250135	90-106	CROSSING RUBBER INTERFACE;
014 5250140	118	LIGHT DUTY ORDER BY
014 5250142	122	TRACK SPREADER AND TRACK
014 5250146	132	POST AND RAILS FOR 2' GAGE SIDE
014 5250147	136	AND 2' FIELD SIDE SECTIONS,
014 5250160	140	
014 5250170	141	
014 5250260	90-141	CLAMP, RUBBER INTERFACE USE 2 PER CR18.

**CSX** TRANSPORTATION

**LIGHT DUTY ROAD CROSSING  
ASPHALT AND RUBBER INTERFACE ON WOOD TIES**

APPROVED - CHIEF ENGINEER  
MAINTENANCE OF WAY

APPROVED - VICE PRESIDENT  
ENGINEERING

PREPARED BY  
J. E. SEVERL

ISSUED: MAY 27, 1997  
REVISED: APRIL 11, 2007

Diagram: Light Duty Road Crossing--Bituminous Concrete with Rubber Panels (2521)

9021

**COOK COUNTY HIGHWAY DEPARTMENT**

**GENERAL REQUIREMENTS FOR CONSTRUCTION/MAINTENANCE PERMITS**

This form must be completed and submitted to the CCHD in advance of utilizing Roberts Road as part of the detour route.

**GENERAL REQUIREMENTS  
FOR CONSTRUCTION/MAINTENANCE PERMITS  
COOK COUNTY HIGHWAY DEPARTMENT**

IN ORDER TO FACILITATE THE REVIEW OF PLANS FOR PERMITS, THE FOLLOWING INFORMATION IS REQUIRED:

- 1) A completed Construction/maintenance including utility companies Permit Application form.
- 2) Five (5) engineering plans showing the size and location of entrance, returns and culverts, along with all pertinent information such as existing entrances of impacted area, roadway configuration and stopping sight distance per American Association of State Highway and Transportation Officials (AASHTO) guideline.
- 3) The location of all existing and proposed utilities in the Cook County right of way, existing right of way lines and roadway configuration (existing & proposed) within 300' of the property.
- 4) The existing and proposed grades and elevations involving drainage and pavement, along with retention and detention calculations.
- 5) Two signed copies of the "plat of survey" with legal description.
- 6) It shall be the responsibility of the general contractor to furnish required bond and insurance before issuance of the final construction permit. The general contractor must furnish a letter on their stationery stating that he/she is the general contractor responsible for all the work requested in this permit. Upon receipt of this letter we will mail the Bond and a Sample of the Certificate of Insurance requirements to them. The bond must be signed and sealed by Bonding Company and the ORIGINAL Bond mailed back to our office.
- 7) Fees are applicable as per Cook County Ordinance 07-O-33.

Should you have any questions please contact the permit office at 312-603-1670.

UPON RECEIPT AND **APPROVAL** OF THE FINAL PLANS, A CONSTRUCTION/MAINTENANCE FEE NOTIFICATION WILL BE SENT OR FAXED TO THE OWNER ON RECORD. THIS CONSTRUCTION/MAINTENANCE "PERMIT FEE NOTIFICATION" STIPULATES THE PERMIT NUMBER, PERMIT FEE ALLOCATION CODE AND PROCEDURE FOR PAYMENT. SELECT A MODE OF PAYMENT BEST SUITABLE TO YOU AND FOLLOW THE PROCEDURE AS STATED IN THE "PERMIT FEE NOTIFICATION". UPON RECEIPT OF THE PAYMENT AND THE ABOVE INFORMATION, THE REQUIRED APPLICATIONS WILL BE FORWARDED TO THE OWNERS FOR SIGNATURE. A CONSTRUCTION PERMIT WILL BE ISSUED UPON RECEIPT AND APPROVAL OF BOND AND INSURANCE FROM THE CONTRACTOR ALONG WITH PAYMENT RECEIPT FROM THE DEPARTMENT OF REVENUE.

**PLEASE MAIL TO: COOK COUNTY HIGHWAY PERMIT OFFICE**  
BHANU VYAS, P.E. PERMIT ENGINEER  
GEORGE W. DUNNE COOK COUNTY OFFICE BUILDING  
69 WEST WASHINGTON STREET, ROOM 2354  
CHICAGO, ILLINOIS 60602-3007  
FAX: (312)-603-9943

FORM63  
7/5/07



**COOK COUNTY HIGHWAY DEPARTMENT  
PERMIT APPLICATION**  
GEORGE W. DUNNE COOK COUNTY OFFICE BUILDING  
69 WEST WASHINGTON STREET, ROOM # 2354  
CHICAGO, ILLINOIS 60602

PHONE: (312) 603-1670; FAX: (312) 603-9943 [hwypermits@cookcountygov.com](mailto:hwypermits@cookcountygov.com)

**Print or Type all information requested. Incomplete applications will NOT be accepted.**

<i>Office Use ONLY:</i>
ID#:
Date:
By:
Fees:

**Owner:**

Name: \_\_\_\_\_  
(Legal Name of Company Owner) (Contact Name) (Title)

Mailing Address: \_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ Email \_\_\_\_\_  
(Day Time)

**Engineer/Architect:** (Primary Firm Assigned to prepare Civil Engineering Plans)

Name: \_\_\_\_\_  
(Contact Name)

Mailing Address: \_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ Email \_\_\_\_\_  
(Day Time)

**General Contractor:** (Contractor assigned to oversee all the work requested in this permit)

Name: \_\_\_\_\_  
(Contact Name)

Mailing Address: \_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ Email \_\_\_\_\_  
(Day Time)

**Owner of Existing Water Main:** (Required if proposing water connection)

Name: \_\_\_\_\_  
(Local Govt. Agency/Private (Public) Utility Company Name) (Contact Name)

Mailing Address: \_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ Email \_\_\_\_\_  
(Day Time)

**Owner of Existing Sanitary Sewer:** (Required if proposing sanitary connection)

Name: \_\_\_\_\_  
(Local Govt. Agency/Private (Public) Utility Company Name) (Contact Name)

Mailing Address: \_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ Email \_\_\_\_\_  
(Day Time)

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**Project Location:** (Complete all information. Print or type clearly.)

Property address: \_\_\_\_\_

Site City: \_\_\_\_\_

County Route Name(s): \_\_\_\_\_

Hwy Section #(s): \_\_\_\_\_

Locations to nearest cross street: \_\_\_\_\_

Description of Work:

**Proposed Work:** (Check all items that apply within Cook County ROW only)

<p><b>Entrance/Access</b></p> <input type="checkbox"/> Commercial entrance <input type="checkbox"/> Temporary const. entrance <input type="checkbox"/> Existing entrance removal <input type="checkbox"/> Existing entrance revisions <input type="checkbox"/> Street entrance <input type="checkbox"/> Private entrance(Residential Single family) <input type="checkbox"/> Utility Access <input type="checkbox"/> Planned Unit Development (PUD)	<p><b>Utilities</b></p> <input type="checkbox"/> Force main /appurtenances <input type="checkbox"/> Water main/appurtenances <input type="checkbox"/> Water service/b-box <input type="checkbox"/> Sanitary sewer/appurtenances <input type="checkbox"/> Storm sewer/appurtenances <input type="checkbox"/> Sump pump/downspout/ discharge/scwer connection <input type="checkbox"/> Water/sanitary sewer service disconnection removal	<p><b>Landscaping (Municipal Only)</b></p> <input type="checkbox"/> Parkway/median trees <input type="checkbox"/> Misc. plantings <input type="checkbox"/> Grading/restoration <p><b>Paths/Walks</b></p> <input type="checkbox"/> P.C.C. sidewalk <input type="checkbox"/> Bike Path	<p><b>Roadway Improvements</b></p> <input type="checkbox"/> Widening (Left turn lane ) <input type="checkbox"/> Widening (Right turn lane) <input type="checkbox"/> Dual Left/right turn lane(s)
<p><b>Traffic Control/Signage</b></p> <input checked="" type="checkbox"/> Temporary road closure/dctour <input type="checkbox"/> Daily lane closures <input type="checkbox"/> Regulatory, informational and/or warning signage <input type="checkbox"/> Municipal/Homeowner <input type="checkbox"/> Association entry signs	<p><b>Utility Companies Only:</b></p> <input type="checkbox"/> Cable installation <input type="checkbox"/> Cable relocation <input type="checkbox"/> Lane closures <input type="checkbox"/> Tree trimming <input type="checkbox"/> Maintenance and repair* <input type="checkbox"/> Annual <input type="checkbox"/> One time <input type="checkbox"/> New Construction	<p><b>Signals/Lighting</b></p> <input type="checkbox"/> New traffic signals/loops <input type="checkbox"/> Signal interconnection <input type="checkbox"/> Signal modifications/loops <input type="checkbox"/> Temporary signals <input type="checkbox"/> Street lighting	<p><b>Miscellaneous</b></p> <input type="checkbox"/> Pavement open-cut <input type="checkbox"/> Soil borings/Monitor wells/Pavement <input type="checkbox"/> Cores <input type="checkbox"/> Parade/Festival/Racc/Event <p>Other: _____</p> <p>Other: _____</p>

\* Parkway Excavation, Pavement Cut and/or Lane Closure are not permitted under Maintenance and Repair permit.

I declare that I have prepared or examined this Application and it is true and correct to the best of my knowledge and belief. I agree to perform all permitted work according to and with all provisions of the Ordinances of the COUNTY OF COOK and any/all local, state and federal statutes and/or codes. I realize that the Highway Department is relying on the information that I have provided in this application in the issuance of the Highway Construction Permit and approval of plans and specifications without variations. The permit issued pursuant to this application shall not be construed to permit any construction upon or within said right of way or use thereof in violation of any provision of any Ordinance of COOK COUNTY or to excuse the owner or the owner's successors and assigns from complying therewith.

**NOTICE: THIS APPLICATION FORM IS NOT A PERMIT AND IN NO WAY AUTHORIZES THE APPLICANT OR CONTRACTOR TO CONSTRUCT/PERFORM ANY WORK OR HOLD AN EVENT WITHIN THE COUNTY'S RIGHTS-OF-WAY WITHOUT THE ISSUANCE OF COUNTY HIGHWAY PERMIT.**

Owner Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 (PRINT) (SIGNATURE)

Applicant Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 (PRINT) (SIGNATURE)

COUNTY OF COOK  
DEPARTMENT OF HIGHWAYS  
PERMITS DIVISION

**CONTRACTOR'S BOND AND INSURANCE REQUIREMENTS**

**BEFORE BOND AND INSURANCE REQUIREMENTS ARE ISSUED, THE GENERAL CONTRACTOR MUST SUBMIT A LETTER ON COMPANY STATIONARY STATING THE FOLLOWING:**

"(Name of General Contractor) is the general contractor responsible for all work performed in Permit (#00-00-0000)."

Upon receipt of the "**GENERAL CONTRACTOR LETTER**," bond form23 cover letter bond forms and insurance requirements will be forwarded or picked up by that company.

**GENERAL CONTRACTOR SHOULD SUBMIT INSURANCE SPECIFIED FOR PERMIT.**

**IN THE EVENT THE INSURANCE EXPIRES OR IS CANCELED PRIOR TO THE COMPLETION OF THE PERMIT, THE PROJECT WILL BE STOPPED UNTIL INSURANCE COVERAGE IS SUFFICIENT.**

Insurance coverage shall be with insurance companies licensed to do business in the State of Illinois and are subject to approval by the County Insurance Coordinator.

General Contractor and/or Insurance Companies must notify this office when there is a change of address, and/or change of Insurance Company. The Permit number must always be on all correspondence.

**CURRENT CERTIFICATE OF INSURANCE MUST REMAIN ON FILE UNTIL RELEASE OF BOND.**

**BOND FORMS** must be properly executed with signature of officers of company and have corporate seal. If general contractor is sole beneficiary, it should be stated on the bond.

**BONDS WILL NOT BE RELEASED UNTIL INSURANCE REQUIREMENTS ARE MET.**

If you have any questions, please contact:

Mr. Bhanu Vyas,  
Permit Engineer;  
Ph no. 312-603-1670  
Fax no. 312-603-9943

*Revised 09/21/2005*

FORM20

# ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

<b>PRODUCER</b>  INSURANCE AGENCY, INC. (PLEASE SUPPLY ADDRESS AND TELEPHONE NUMBER AND FAX NUMBER)	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
	<b>INSURERS AFFORDING COVERAGE</b>	NAIC #
<b>INSURED</b>  GENERAL CONTRACTOR (PLEASE SUPPLY ADDRESS AND TELEPHONE NUMBER AND FAX NUMBER)	INSURER A: <b>INSURANCE COMPANY</b>	
	INSURER B: <b>(MUST BE RATED IN BEST'S</b>	
	INSURER C: <b>KEY RATING GUIDE)</b>	
	INSURER D:	
	INSURER E:	

**COVERAGES**

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L LTR INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	ALL LIMITS IN THOUSANDS	
	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR <input checked="" type="checkbox"/> XCU (UNDERGROUND EXPLOSION AND COLLAPSE HAZARD) GENL AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	MCW 0000 (BINDER NUMBER NOT ACCEPTABLE)  EXPLOSION AND COLLAPSE HAZARD	00-00-00	00-00-00	EACH OCCURRENCE DAMAGE TO REPTED PREMISES (Ea. occ./reference) \$	\$ 1000
	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	JEM 000 (BINDER NUMBER NOT ACCEPTABLE)	00-00-00	00-00-00	COMBINED SINGLE LIMIT (Ea. accident) \$	\$ 1000
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO	<b>SAMPLE "A"</b>			BODILY INJURY (Per person) \$	\$ (OR)
	EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE  <input type="checkbox"/> DEDUCTIBLE RETENTION \$				BODILY INJURY (Per accident) \$	\$ 1000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below	RAH 000 0000 000 (BINDER NUMBER NOT ACCEPTABLE)	00-00-00	00-00-00	AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY: AGG \$	
	OTHER	UNDERGROUND EXPLOSION AND COLLAPSE HAZARD (X.C.U) MUST BE STIPULATED, EVEN IF THIS IS AUTOMATICALLY COVERED UNDER GENERAL LIABILITY.				

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

COUNTY OF COOK ADDITIONAL NAMED INSURED FOR PERMIT NUMBER 00-00-0000  
 (CERTIFICATES OF INSURANCE ARE NOT ACCEPTABLE UNLESS PERMIT NUMBER IS INDICATED)

<b>CERTIFICATE HOLDER</b>  COOK COUNTY HIGHWAY DEPARTMENT PERMIT OFFICE (ROOM 2354) 69 WEST WASHINGTON STREET CHICAGO, ILLINOIS 60602	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL <del>BE RESPONSIBLE TO</del> MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, <del>FOR THE POLICY PERIOD</del> <del>FOR THE POLICY PERIOD</del> <del>FOR THE POLICY PERIOD</del> AUTHORIZED REPRESENTATIVE
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**COUNTY OF COOK**  
**HIGHWAY DEPARTMENT**  
**GENERAL CONDITIONS FOR PERMITS FOR WORK**

1. Capitalized terms used in this Permit and not otherwise defined herein shall have the meanings ascribed to them in the Public Way Regulatory Ordinance (the "Ordinance"), Chapter 66, Article III, Sections 50 et seq. of the Cook County Code. Requirements set forth in these General Conditions are in addition to and not in limitation of the requirements of the Ordinance.
2. No lane closures or traffic detours relating to permitted work will be allowed between the hours of 6 a.m. to 9 a.m. and 3 p.m. to 6:30 p.m., (other than as allowed for emergency maintenance per the Ordinance). All traffic control devices must conform to the latest edition of the State of Illinois "Manual on Uniform Traffic Control Devices for Streets and Highways."
3. Permittee shall furnish all material to do all work required, and pay all costs which may be incurred in connection with such work, and shall prosecute the same diligently and without delay to completion. See Ordinance for additional requirements as to work in the Public Way.
4. Permittee shall perform all Permitted Work in accordance with the current Standard Specifications for Road and Bridge Construction of the Illinois Department of Transportation including the Supplemental Specifications thereto of the County of Cook, and as detailed in the Permit and the Ordinance, and all submittals made pursuant to the application process, as modified at the request of the Highway Department and as finally approved by the Highway Department.
5. Upon completion of the Permitted Work, Permittee shall, at its own cost, and in a timely manner, (but in no event more than 30 days unless another time frame is directed by the Highway Department, restore the Public Way substantially to the same condition in which it was before the Permitted Work was commenced and shall remove all debris, rubbish, materials, apparatus, tools, and equipment, as well as all excess excavated materials, from the Public Way, all to the satisfaction of the Cook County Superintendent of Highways.
6. Should future construction and operation of the highways by the County of Cook require alteration or relocation of the Permittee's Facilities, such change shall be made by the Permittee, its successor or assigns upon the written request of the Superintendent of Highways without expense to said County or State. Requirements for any such requested alteration or relocation are further detailed in the Ordinance.
7. Permittee, its successor and assigns assume all risk and liability for accidents and damages that may accrue to persons and property, during the prosecution of the work or any time thereafter, by reason of the location, construction, installation, operation, maintenance, repair and work referred to herein, and Permittee, by acceptance of this Permit, agrees to indemnify and save harmless the County of Cook from any such claims for damages and from all costs and expenses incurred on account thereof and in connection therewith.
8. No changes, alterations, or revisions to the Permitted Work are allowed unless approved in writing by the Cook County Superintendent of Highways or his designee. See Ordinance for detailed requirements and fees relating to permit modifications.
9. In accordance with ordinances of the County, and agreement by the Permittee, the Permittee acknowledges and agrees that this Permit is null and void if the Permittee is delinquent in the payment of any tax or fee administered by the County of Cook.

- 10 The pavement, parkway and all drainage systems shall be kept clean and free of debris at all times.
- 11 Unless particularly specified in the Permit, no equipment other than pneumatic-tired equipment used during the installation shall be permitted to stop or operate on the pavement nor shall any excavated materials be stored temporarily or otherwise on the County Highway pavement.
- 12 Access to driveways, houses, buildings or other property abutting the site of the Permitted Work shall not be blocked.
- 13 The Permittee shall conduct its operations in a manner so as to insure the minimum hindrance to traffic.
- 14 The use of flagmen and that the number, type, color, size and placement of all traffic control devices shall conform to the latest edition of the State of Illinois "Manual on Uniform Traffic Control Devices for Streets and Highways."
- 15 All aerial lines crossings or parallel must have a minimum clearance of 18'3".
- 16 This Permit covers only the Permitted Work and does not release the Permittee from fulfilling the requirements of any other Laws relating to the Permitted Work. Fulfillment by Permittee of all requirements set forth in the Permit for Work Application and its instructions, including without limitation, insurance and bonding requirements ("Application Requirements") are a condition of this Permit. Issuance of this Permit, without the fulfillment of all Application Requirements by Permittee shall not act as a waiver of Permittee's obligation to comply with such Application Requirements, unless approval in writing of such change is given by the Cook County Superintendent of Highways.
17. At least two (2) days advance notice prior to the start of work shall be given to the County Permit Division, Mr. Bhanu Vyas (312)-603-1670.
18. This Permit can be revoked pursuant to the terms of the Ordinance or at the discretion of the Cook County Superintendent of Highways,

#### **ADDITIONAL GENERAL CONDITIONS THAT PERTAIN TO CONSTRUCTION PERMITS**

- 19 All trenches and openings made in the Public Way shall be backfilled with sand or limestone screening adequately compacted in accordance with Method 1 specified in Article 550.07 of the State Standard Specifications.
20. All pavement openings and curb cuts shall be saw cut full depth.
- 21 All pavement openings shall be immediately surfaced with a temporary bituminous patch at least three inches in thickness. This patch then must be inspected daily and additional bituminous patch material must be placed, daily if necessary, to maintain the patched area at the same elevation as the adjacent undisturbed pavement for a period of not less than 30 days. After 30 days permanent replacement in kind shall be made to the base course and pavement surface.
- 22 All auger pits shall be a minimum of 10 feet from the edge of pavement or back of curb, and wood or steel sheeting shall be used, and auger pits left open overnight shall be protected with concrete barrier walls.
- 23 All casings shall be pressure grouted both inside and outside of the casing.

- 24 That a minimum depth of 42 inches will be maintained from the ground surface to the top of the conduit, cable or pipe and a minimum depth of 36 inches from the true flow line of the drainage ditch to the top of the conduit, cable or pipe.
- 25 That all excavation work within three (3) feet of the pavement edge will be done manually.
- 26 If Permittee discovers during the progress of the Permitted Work that subterranean conditions prohibit the construction of said improvement in and along the alignment as outlined in the plans, it is expressly understood that all Permitted Work shall cease until a proposed revised alignment has been approved by the Cook County Highway Department and the Permit has been modified.
- 27 Without further action, the Cook County Highway Department reserves the right to make connections to the proposed storm sewer for the purpose of draining the highway.
28. The Permittee shall be responsible for providing positive drainage.
- 29 In the removal of sidewalks, curb, gutter or pavement, the use of any type of concrete breaker that will damage the underground structures will not be permitted.
- 30 Permittee shall provide and maintain at its own expense, such temporary roads and approaches, as may be necessary to provide access to driveways, houses, buildings or other property abutting the site of the Permitted Work.
- 31 For driveway installations, the Permittee shall remove earth to its full depth, starting at the edge of the pavement, for the full dimensions of the proposed driveway, and replaced with materials to be used in the construction of the driveway.
- 32 When existing traffic control signs such as stop signs, stop ahead signs and crossroad signs are removed in the progress of the Permitted Work, said signs shall be immediately reset as close as possible to their original location. After the construction of the Facility or the completion of the Permitted Work has been approved, said traffic control signs shall be restored to their original position and condition or as directed by the County Permit Engineer.
- 33 The Permittee shall conduct its operations in a manner so as to insure the minimum hindrance to traffic, using the pavement and at no time shall its operations obstruct more than one half(1/2) of the available pavement width.
- 34 This Permit is issued with the express understanding that the Permittee has obtained the proper authority for the said installation from the "Illinois Environmental Protection Agency Division of Public Water Supplies.

**ITW ACCIDENT FORM (SIGNODE PROPERTY)**

This form must be filled out and submitted to ITW for any injuries that occur on Signode property. Submit the completed form to the following contact person:

Mark E. Hollo  
Senior Plant Engineer  
Signode Midwest Steel & Special Products  
7701 West 71st Street  
Bridgeview, IL 60455  
Phone: 708-458-7320 ext. 230  
Fax: 708-458-9656  
E-Mail: [mhollo@signodemidwest.com](mailto:mhollo@signodemidwest.com)



ONLY THIS PAGE IS TO BE COPIED AND GIVEN TO EMPLOYEE REPRESENTATIVES (when requested).

# TW OCCUPATIONAL INJURY AND ILLNESS INCIDENT REPORT

(Transfer the case number from the Log after you record the case.) Case Number from the Log

INCIDENT INFORMATION	Date of injury or illness:	
	Time of injury/event:	A.M. : P.M. <input type="checkbox"/> Check if time cannot be determined
	Time employee began work:	A.M. P.M.
	Date employee reported Injury/illness:	

DESCRIPTION OF INJURY/ILLNESS AND BODY PARTS AFFECTED	Describe injury/illness and body parts affected IN DETAIL (e.g. Second degree burn to right ring finger tip, Strain to upper left side of back) Be more specific than "hurt," "pain," or "sore."

DESCRIPTION OF INCIDENT OR EXPOSURE	What was employee doing just before the incident occurred? (Describe the activity as well as the tools, equipment or material the employee was using. Be specific. Ex: "climbing a ladder while carrying roofing material"; "spraying chlorine from hand sprayer"; "daily computer key-entry.")

DESCRIPTION OF INCIDENT OR EXPOSURE	What Happened -- How did the incident occur? (Examples: "When ladder slipped on wet floor, employee fell 20 feet"; "Employee was sprayed with chlorine when gasket broke during replacement"; "Employee developed soreness in wrist over time.")

DESCRIPTION OF INCIDENT OR EXPOSURE	What object or substance directly harmed the employee? Examples: "concrete floor"; "chlorine"; "radial arm saw." If this question does not apply to the incident, leave it blank.
	If employee died, when did death occur? Date of death:

SAFETY MANAGEMENT	Were any plant safety rules violated? Yes No If Yes, explain and attach disciplinary action report.
	State root cause of incident:
	State what will be done to prevent recurrence:
	Expected completion date(s):
Comments from safety committee (IF APPLICABLE):	

SIGNATURES:	Safety Committee Representative: _____ Date signed: _____
	Reviewed by Facility Manager: _____ Date signed: _____

## PEPSICO PLANT OUTAGE SCHEDULE

2011 Schedule - PepsiCo

January							
	S	M	T	W	T	F	S
P1.1	26	27	28	29	30	31	1
P1.2	2		4	5	6	7	8
P1.3	9	10	11	12	13	14	15
P1.4	16	17	18	19	20	21	22
P2.1	23	24	25	26	27	28	29
P2.2	30	31					

July							
	S	M	T	W	T	F	S
P7.3						1	2
P7.4	3	4	5	6	7	8	9
P8.1	10	11	12	13	14	15	16
P8.2	17	18	19	20	21	22	23
P8.3	24	25	26	27	28	29	30

February							
	S	M	T	W	T	F	S
P2.2			1	2	3	4	5
P2.3	6	7	8	9	10	11	12
P2.4	13	14	15	16	17	18	19
P3.1	20	21	22	23	24	25	26
P3.2	27	28					

August							
	S	M	T	W	T	F	S
P8.4	31	1	2	3	4	5	6
P9.1	7	8	9	10	11	12	13
P9.2	14	15	16	17	18	19	20
P9.3	21	22	23	24	25	26	27
P9.4	28	29	30	31			

March							
	S	M	T	W	T	F	S
P3.2			1	2	3	4	5
P3.3	6	7	8	9	10	11	12
P3.4	13	14	15	16	17	18	19
P4.1	20	21	22	23	24	25	26
P4.2	27	28	29	30	31		

September							
	S	M	T	W	T	F	S
P9.4					1	2	3
P10.1	4	5	6	7	8	9	10
P10.2	11	12	13	14	15	16	17
P10.3	18	19	20	21	22	23	24
P10.4	25	26	27	28	29	30	

April							
	S	M	T	W	T	F	S
P4.2						1	2
P4.3	3	4	5	6	7	8	9
P4.4	10	11	12	13	14	15	16
P5.1	17	18	19	20	21	22	23
P5.2	24	25	26	27	28	29	30

October							
	S	M	T	W	T	F	S
P10.4							1
P11.1	2	3	4	5	6	7	8
P11.2	9	10	11	12	13	14	15
P11.3	16	17	18	19	20	21	22
P11.4	23	24	25	26	27	28	29
P12.1	30	31					

May							
	S	M	T	W	T	F	S
P5.2							
P5.3	1	2	3	4	5	6	7
P5.4	8	9	10	11	12	13	14
P6.1	15	16	17	18	19	20	21
P6.2	22	23	24	25	26	27	28
P6.3	29	30	31				

November							
	S	M	T	W	T	F	S
P12.1			1	2	3	4	5
P12.2	6	7	8	9	10	11	12
P12.3	13	14	15	16	17	18	19
P12.4	20	21	22	23	24	25	26
P13.1	27	28	29	30			

June							
	S	M	T	W	T	F	S
P6.3				1	2	3	4
P6.4	5	6	7	8	9	10	11
P7.1	12	13	14	15	16	17	18
P7.2	19	20	21	22	23	24	25
P7.3	26	27	28	29	30		

December							
	S	M	T	W	T	F	S
P13.1					1	2	3
P13.2	4	5	6	7	8	9	10
P13.3	11	12	13	14	15	16	17
P13.4	18	19	20	21	22	23	24
P13.5	25	26	27	28	29	30	31

-  Paid Holiday
-  Plant Shut Down - All (none planned in 2011)
-  Plant Shut Down - Maintenance \*\* Subject to Change
-  Plant Shut Down - Fumigation \*\* Subject to Change
-  Plant Physical Inventory \*\* Subject to Change

**CSX TRANSPORTATION**

**SPECIFICATIONS FOR CAST-IN-PLACE CONCRETE**

Office of Director Structural Engineering  
Jacksonville, Florida  
Date Issued: October 1, 1999

**SPECIFICATIONS FOR CAST-IN-PLACE CONCRETE**

**A. SCOPE**

These specifications cover all cast-in-place concrete required for completion of the project.

**B. GENERAL**

Except as otherwise specified hereunder, the current American Railway Engineering and Maintenance Association (AREMA) Manual for Railway Engineering (Specifications), Chapter 8 – Concrete Structures and Foundations, shall apply to all work under this section Foundations, shall apply to all work under this section.

**C. STRENGTH, PROPORTIONS AND MIXES**

1. Cement, unless otherwise specified, shall conform to the following:

a.) Standard Concrete

Cement shall be Portland Cement, Type I or Type IA, conforming to the requirements of ASTM Designation C150.

b.) High Early Strength Concrete

Cement shall be Type III, or Type IIIA, conforming to the requirements of ASTM Designation C150.

2. Minimum compressive strength at 28 days shall be 4000 PSI, unless indicated otherwise on the plans.

Minimum cement content shall be 6.0 Bags/CY (564 LBS/CY).

3. Nominal size of coarse aggregate shall be 1" – No. 4 (Size 57). See AREMA Table 1.3.3

4. Concrete shall be air-entrained by the use of an air entraining admixture conforming to requirements of ASTM Designation, C260, or by the use of air-entraining Portland cement meeting the requirements of ASTM Specification C150. The concrete shall have an air content between 4.0% and 6.0%.

5. Admixtures, except air-entraining agents, used to alter the normal properties of concrete for densifying, dispersing, retarding, accelerating, plasticizing, coloring, or waterproofing, shall be used only upon written permission of the Engineer.
6. Testing: Compression tests and field tests will be required as specified in the AREMA Manual, Chapter 8, Part 1. The Contractor shall furnish all test materials and test cylinder molds, shall perform all work to make and cure the test cylinders, and after proper curing, shall deliver the test cylinders to an independent testing laboratory where they shall be tested at the Contractor's expense. The test results shall be furnished directly to the Engineer in writing, by the testing laboratory, on a standard testing report form. Not less than four test cylinders shall be made for each twenty cubic yards or fraction thereof, of cast-in-place concrete. One pair of cylinders shall be tested at 7 days and the second pair at 28 days.
7. Slump range shall be two to four inches. At least one slump test shall be made for each truckload of concrete delivered to the project for inclusion in the work. A record of the amount of slump shall be made and furnishing to the Engineer.

#### **D. REINFORCING STEEL**

1. Reinforcing steel bars shall be intermediate grade, new billet steel, conforming to ASTM Designation A615, Grade 60. Reinforcing bars shall be bent cold in the shop or in the field around a pin not less than 6 times the diameter of the bar. Reinforcing partially embedded in concrete or in mortar in dowel holes shall not be field bent, except as permitted by the Engineer.
2. Welded wire mesh shall conform to ASTM Designations A82 and A185.
3. Epoxy coated reinforcing bars, where specified or shown on the Plans, shall conform to ASTM A775, "Standard Specification for Epoxy-Coated Reinforcing Bars". Epoxy coated reinforcing bars shall be tied with plastic or epoxy coated wires or approved plastic clips, and shall be set on plastic or epoxy coated wire chairs.

#### **E. INTERFACING WITH EXISTING CONCRETE**

1. Surface preparation and anchorage shall be as specified in AREMA Specifications, Chapter 8, Part 14, unless otherwise indicated on the Plans. Dowels shall be made of deformed bars, ASTM A615, Grade 60, and shall be spaced as shown on the Plans. Dowels shall be grouted in place with an Epoxy Grout intended for dowel bars and shall be applied in accordance with the manufacturer's recommendations. Horizontal dowel holes shall be drilled

downward on a slope of approximately one-inch per foot or as otherwise indicated on the Plans.

2. The surface of the existing material to which the new concrete will be bonded shall be cleaned by either sandblasting, waterblasting, hammers or wire brushes, so that all foreign material and loose or unsound concrete is removed and that a clean sound surface remains. The exposed surface shall be washed with clean water or air cleaned with oil free air to remove all loose dust. Grease and oil shall be scrubbed and removed with a detergent and the surface washed with clean potable water.
3. New concrete shall be bonded to clean sound material with an Epoxy Bonding compound. Bonding System shall meet the requirements of ASTM C881, Type II Grade 1 or 2, and shall be subject to approval by the Engineer. Bonding System shall be applied in accordance with manufacturer's recommendations. It is further recommended that Bonding compound be applied as a spray application by use of a Binks bottom discharge pressure vessel operating at approximately 100-psi. Bonding Compound shall not be applied to surfaces that have visible or standing water.

#### **F. DAMPPROOFING**

All surfaces of concrete masonry, which will be in contact with backfill or embankment, shall be dampproofed, with Asphalt Primer and Asphalt, in accordance with AREMA Specifications, Chapter 29, Part 3.

#### **G. CONSTRUCTION JOINTS**

Construction joints shall be made only where shown on the Plans, unless otherwise approved by the Engineer, and shall be adequately keyed and, if required by the Engineer, be provided with 9"x3/8" polyvinyl chloride hollow bulb waterstops.

#### **H. FORMED SURFACE FINISH**

All unformed surfaces shall be constructed to lines and contours shown on the drawings with a wood or hard rubber float finish. Formed surfaces shall be made with plywood faced wood forms or with steel faced forms.

#### **I. CURING**

Concrete shall be protected as required by AREMA Specification, Chapter 8, Section 1.17, for a minimum of 7 days. Membrane curing compounds are permitted, on all cast-in-place concrete surfaces except those that will abut other new concrete. Curing of such abutting surfaces shall be by wet curing methods.

Membrane curing shall be compatible with the specified Concrete Surface Sealer, or the membrane curing compound shall be removed to promote adhesion of the sealer to the concrete.

## **J. BEARING PADS**

Bearing pads shall be used whenever steel Masonry Plate, or other steel bearing plate, bears on concrete. Pads shall be preformed fabric bearing pads, ½" thick, and shall be either Shock Pad Style 15175, as manufactured by the Alert Manufacturing and Supply Company, Chicago, IL; or Fabreeka Pads, as manufactured by the Fabreeka Production Company, Boston, MA; or SORBTEX Pads as manufactured by Voss Engineering, Inc., Chicago, Illinois, or an approved equal.

## **K. MEASUREMENT AND PAYMENT**

1. Measurement: The quantity of Cast-in-Place Concrete to be paid for, will be the number of cubic yards of concrete which has been incorporated into the completed and accepted work. The number of cubic yards of concrete will be computed from dimensions shown on the plans or from revised dimensions authorized by the Engineer. No deduction will be made for the volume of encased reinforcement.

The quantity of Reinforcing Steel to be paid for, will be the number of pounds of reinforcing steel incorporated in the completed and accepted work. The number of pounds of reinforcing steel will be computed from dimensions and sizes shown on the plans or from revised dimensions authorized by the Engineer.

2. Payment: The quantity of Cast-in-Place Concrete, as measured above, will be paid for at the contract unit price per cubic yard for the item CAST-IN-PLACE CONCRETE. The above price will be full compensation for furnishing all material, equipment and labor necessary for placing, dewatering, dampproofing, curing, excavation and backfill, forms, finishing, and casting, curing and testing concrete test cylinders.

The quantity of Reinforcing Steel, as measured above, will be paid for at the contract unit price per pound for the item REINFORCING STEEL. The above price will be full compensation for furnishing all material, equipment and labor necessary for furnishing and installing the reinforcing steel.

**CSX TRANSPORTATION**

**SPECIFICATIONS FOR STRUCTURAL STEEL**

Office of Director Structural Engineering  
Jacksonville, Florida  
Date Issued: October 1, 1999

**SPECIFICATIONS FOR STRUCTURAL STEEL****A. SCOPE**

These specifications shall cover the furnishing, fabrication, preparation, assembly, welding, painting, and erection of all structural steel shown on the plans.

**B. GENERAL SPECIFICATIONS**

Except as otherwise specified hereinafter, the current AREMA specifications, Chapter 15, Steel Structures, applies to all work.

**C. STRUCTURAL STEEL**

1. All fracture critical members are identified on the plans.
2. All fracture critical members will be fabricated in accordance with the Fracture Control Plan stated in the AREMA specifications, Chapter 15, Section 1.14.
3. Fabricator shall be certified under the AISC Quality Certification Program as follows:
  - Welded Plane Girders Category III.
  - Rolled Beam Bridge Category I.
4. Structural Steel shall be ASTM A709 Gr36, Gr50 or Gr50W. The toughness shall be T2 for non-fracture critical members or F2 for fracture critical members. Other types of steel may be used if approved by the CSX Director Structural Engineering. Thickness of flange plates shall not exceed 3 inches.

**D. OTHER MATERIALS**

1. High strength bolts shall 7/8" diameter and meet the current requirements of the A.S.T.M. Specifications for High Strength Bolts for Structural Steel Joints, Designation A 325, Type 3.
2. Anchor bolts shall be threaded rods with heavy hex nut meeting the current requirements of A.S.T.M. specification for fasteners, Designation A-307.
3. Welding electrodes for arc welding shall meet the current requirements of the Specifications for mild steel arc-welding electrodes Series E70, AWS 5.1, Low Hydrogen Classification for SMAW and AWS 5.17 for SAW.

4. Preformed fabric bearing pads shall be Shock Pad Style No. 15175 as manufactured by Alert Manufacturing and Supply Company, Chicago, Illinois, or FABREEKA Pads as manufactured by Fabreeka Products Company, 1190 Adams Street, Boston, Massachusetts, or SORBTEX Pads as manufactured by Voss Engineering, Inc., Chicago, Illinois, or approved equal.

**E. WELDING PROCESSES**

Only submerged arc welding (SAW) or shielded metal arc welding (SMAW) may be used. No other process will be allowed.

**F. BOLTED CONNECTIONS**

Permanent bolted connections using High Strength Bolts shall be installed and tightening using the Turn-of-the-Nut Method.

**G. PAINT**

All steel preparation and painting shall be in accordance with CSX Specifications for Painting Steel Structures.

**H. SHOP DRAWINGS**

1. The Contractor's attention is called to the requirements for shop drawings, Chapter 15, Article 1.1.2 Shop Drawings, AREMA Specifications.
2. The Contractor shall furnish three (3) complete sets of detailed shop drawings to the Company for approval prior to starting fabrication. Unchecked drawings shall not be submitted for approval. After approval of shop drawings, the Contractor shall supply the Company with one set of reproducibles of the approved drawings.
3. The rejection of a procedure or the correction of shop drawings will not be considered as cause for delay.
4. Approval by the Engineer of the shop drawings shall not relieve the Contractor from furnishing material of proper dimensions, quantity, and quality, nor will such approval relieve the Contractor from the responsibility for errors of any sort in the shop drawings.
5. Original drawings or reproducibles on Mylar, or equivalent film, shall be furnished at the completion of the Contract in accordance with Chapter 15, Article 1.1.3, AREMA specifications. Reproducibles made by the diazo process are not acceptable.

**I. SHOP INSPECTION & TESTING**

1. The Company may arrange for inspection by an independent inspection firm under a separate contract. This inspection will be in addition to the Fabricator's Quality Control Program.
2. The Fabricator shall notify the Company and its inspector of the scheduled date for beginning fabrication, and shall not begin fabrication until the Company's Inspector is present.
3. The Fabricator shall furnish copies of certified mill inspection reports to the Company for all structural steel requiring improved notch toughness.
4. The Fabricator shall meet the requirements of the AREMA Fracture Control Plan described in Chapter 15, Section 1.14 for all members and components designed as fracture critical.
5. Welding Inspection shall verify that all welds and welding procedures meet the requirements of the American Welding Society (A.W.S.) Bridge Welding Code, D1.5, current edition and all addenda to it.
6. All welds shall be inspected visually and by use of nondestructive testing. All nondestructive testing shall be performed by the Fabricator and witnessed by the Company's Inspector.
7. Witnessing of weld inspection shall be done in a timely manner without disruption of normal shop operations. Copies of all weld inspections and nondestructive testing reports shall be furnished to the Company.
8. The Fabricator shall perform the following weld inspection and testing:
  - (a) All transverse tension groove welds in FCM members, when allowed by the Engineer, shall be RT and UT tested 100% In non-FCM components of FCM's all transverse groove welds shall be RT or UT tested 100%.
  - (b) All flange to web welds shall be tested on both sides as follows:
    1. Butt welds in both girder flanges and girder webs shall be 100% radiographed.
    2. 50% of flange to web welds shall be inspected by ultrasonic inspection method.
    3. 10% of all other welds shall be inspected by ultrasonic or magnetic particle procedures.

4. Deck plate to floorbeam or longitudinal girder welds may be visually inspected.

**XI. MEASUREMENT AND PAYMENT**

1. Measurement: The Structural Steel shall be measured on a lump sum basis unless otherwise indicated on the Plans.
2. Payment: The payment for Structural Steel shall be on a lump sum contract price bid for STRUCTURAL STEEL. The lump sum contract price bid shall be full compensation for furnishing all materials, equipment, quality control testing, shop drawings and labor necessary for fabricating, painting, and erecting the Structural Steel as detailed in the plans.

**CSX TRANSPORTATION**

**SPECIFICATIONS FOR PAINT FOR SHOP FABRICATED BRIDGE  
STEEL**

**INORGANIC ZINC-ACRYLIC SYSTEM  
TOP COAT COLOR TO BE GRAY**

Office of Director Structural Engineering  
Jacksonville, Florida  
Date Issued: October 1, 1999

**SPECIFICATIONS FOR PAINT FOR SHOP FABRICATED BRIDGE STEEL**

**INORGANIC ZINC-ACRYLIC SYSTEM TOP COAT COLOR TO BE GRAY**

**A. GENERAL**

**1. PLANS AND SPECIFICATIONS**

- a) This work consists of furnishing all labor, material, plant and equipment, and performing all operations in connection with shop Painting (prime coat, wash coat, and top coat applied in the fabricators plant or unless otherwise specified by the Railway). All painting shall be in accordance with AREMA Specifications, Chapter 15 – Section 3.4, and recommendations of the Steel Painting Council Specifications with the following requirements.
- b) The paint thickness will be measured according to “SSPC-PA2” Method for Measurement of Dry Paint Thickness with Magnetic Gages.

**2. SURFACE PREPARATION**

- a) The surface preparation shall be in accordance with steel Structures Painting Council Specifications SP 10 (NEAR WHITE BLAST) latest revision and Visual Standard NACE No. 2. Average surface profile to be 2 miles.
- b) Application – The paint shall be applied in accordance with SSPC Specifications for Paint Application – PA1.
- c) The Prime Coat shall be applied in the shop promptly after blast cleaning, but in no case shall the prime coat be applied more than 8 hours after blast cleaning or after visible or detrimental rusting occurs.
- d) Steel shall be cleaned by washing, or other mechanical means to remove all residue (loose zinc dust and foreign matter) prior to applying Wash and Top Coat.
- e) Surface damaged during shipment and handling shall be repaired using the same paint system as applied in the shop except that the Prime coat shall be repaired using an *Organic Zinc Primer* when the Primer Coat is repaired in the field.

**3. WELDED AREAS AND FAYING (CONTACT) SURFACES**

No paint shall be applied to areas to be welded in the field. No Vinyl paint (wash or topcoat) shall be applied to any faying surfaces.

**B. PAINTING REQUIREMENT**

PAINT SYSTEM

- a) The fabrication will be given the option of using one of the following paint systems (*Prime Coat, Intermediate and Top Coats shall be applied in the fabricator's plant unless otherwise specified by the Railway*). If the Intermediate Coat and Top Coat are applied in the field, the steel shall be solvent wiped to removed all grease and oil and a "*High Pressure Power Washing*" with clean water (3500 p. s. i. Minimum) shall be used to clean all mud and dirt off prior to applying the touch-up Primer or Intermediate and Top Coats. *The Fabricator shall supply sufficient quantities of touch-up Organic Zinc-Rich Primer, Intermediate Coat, Topcoat and Thinner*. The Chief Bridges and Structures are to be notified of the fabricator's choice. Priming of the contact surfaces with Inorganic Zinc-Rich primer is required.
- b) If approved or further specified by the Railway, the Wash Coat and topcoat shall be applied in the shop.

SYSTEM # 1 (DAVIS-FROST)

Prime Coat: P-139 LOW V.O.C. Inorganic Zinc Primer applied at 4.0 – 5.0 miles Dry Film Thickness.

Intermediate Coat – W-112 Water Guard Metal Primer (White applied at 3.0 – 4.0 miles Dry Film Thickness.

Finish (Top) Coat – W-195 Water-Tuff DTM Finish (Gray) applied at 3.0- 4.0 miles Dry Film Thickness. Touch Up Primer – P-281 (3 component) Epoxy Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry film Thickness.

Suggested Supplier: Davis – Frost, Inc.  
P.O. Box 11405, Lynchburg, VA 24506  
Telephone (804) 846-5277

SYSTEM # 2 (ELITE)

Prime Coat: Elite 1312 Inorganic Zinc Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat – Elite 156 Exterior Acrylic Latex (White) applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat – Elite 156 Exterior Acrylic Latex (Gray) applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer – Elite 305 Organic Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Elite Coatings Company, Inc.  
P.O. Box 130  
Gordon, GA 31031  
Telephone: (912) 628-2111

#### SYSTEM # 3 (DEVOE)

Prime Coat: Cata-Coat 301 Inorganic Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat: DEVRAN 646 Water Based Epoxy primer (White) applied at 3.0 – 4.0 mils Dry Film Thickness.

Prime Coat: DEVFLEX 604-S-9903 Water Based Gloss Enamel (Gray) applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer – Cata-Coat 303H Organic Zinc-Rich Epoxy applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Devoe Coating Company  
1519 West Liberty Avenue, Pittsburgh, PA 15226  
Telephone: (412) 561-8930  
Attn: Joe Basile

#### SYSTEM # 4 (SHERWIN-WILLIAMS)

Prime Coat: ZINC CLAD II HS – (B69VZ1 B69VZ3 B69D11) Inorganic Zinc – Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat – B66 Series DTM ACRYLIC GLOSS (White) to applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat – B66 Series DTM ACRYLIC GLOSS (Gray) applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer – ZINC – CLAD IV – (B69 A8/B69 V8) applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: The Sherwin-Williams Company  
765 North Avenue NE,  
Atlanta, GA 30306  
Telephone: (404) 873-6723

SYSTEM # 5 (VALSPAR)

Prime Coat: Valspar MZ-7 Inorganic Zinc-Rich Primer  
Applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat - #61 Series Water-Acrylic Lo Sheen (White)  
applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat - # 61 Series Water-Acrylic Lo Sheen (Gray)  
applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer – MZ-4 Epoxy Zinc-Rich Primer (Green applied at  
4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Corrosion Specialties Inc.  
3897 Stephens Court  
P.O. Box 146  
Tucker, GA 30085-0146  
Telephone: (404) 938-7263  
Attn: Andy Steinmann

SYSTEM # 6 (AMERON)

Prime Coat: Amercoat 21-5 Inorganic Zinc-Rich primer applied at 4.0  
– 5.0 mils Dry Film Thickness.

Intermediate Coat – Amercoat 148 Waterborne Acrylic (Gray) applied  
at 3.0 – 4.0 mils Dry Film Thickness.

Finish (top) Coat – Amercoat 220 Waterborne Acrylic (Gray) applied  
at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer – Amercoat 68HS Zinc-Rich Primer applied at 4.0 –  
5.0 mils Dry Film Thickness.

Suggested Supplier: Ameron Protective Coating Division  
11605 Vimy Ridge Road  
Little Rock, AK 72209  
Telephone: 1-800-283-6627

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**POST – PAINTING REQUIREMENTS**

1. Steel shall be cleaned by washing, or other mechanical means to remove all residue (loose zinc dust and foreign matter) prior to apply Wash and Top Coat. An “M.E.K. Rub Test” shall be used to assure proper cure of the inorganic zinc primer prior to applying the next coat.
2. *The Intermediate Coat may have to be thinned to prevent gassing.*

**C. PAINTING MATERIALS REQUIREMENTS****1. PACKAGING AND SHIPPING**

- a) All paint shall be received at the point of use in original containers and carefully stored. All paint to be used shall be freshly mixed and shall be ordered only a sufficient length of time in advance of its use to insure an adequate supply being on hand at all times so as not to delay the work.
- b) Paint shipped to the job shall arrive in sealed containers clearly marked with the type of paint and specifications controlling its manufacture.
- c) There shall be no modification of the paint except upon, and in accordance with, express written stipulation by an authorized representative of the paint manufacturer and with specific approval of the Engineer.

**2. STORAGE**

Paint in storage at the shop or in the field shall have the position of the containers reversed at least once a week to prevent settlement and separation of the pigment from the vehicle. There shall be suitable devices maintained at the point of storage and used for agitation and thorough mixing of the paint prior to its use on this work.

**3. SAMPLE PANEL**

If directed by the Engineer, a sample panel shall be made up. The panel shall be used as a basis of comparison of the work on this contract. The panel shall be of size designated by the Engineer and shall be prepared and painted in all respects in the same manner, as the work will be done.

**D. WORKMANSHIP**

## 1. WEATHER CONDITIONS

Paint shall not be applied when the temperature of the air is less than 40 degrees F., when the surface of the metal is not dry, the relative humidity is above 85%, or when, in the opinion of the Engineer, conditions are otherwise unsatisfactory for such work. Paint shall not be applied upon damp, or frosted surfaces. Material painted under cover until dry or until weather conditions permit its exposure in the open. Painting shall not be done when the metal is hot enough to cause the paint to blister and produce a porous paint film.

## 2. APPLICATION

- a) Paint shall be applied in accordance with SSPC Specifications for Paint Application – PA1 and in accordance with manufacturer's recommendation.
- b) All blast cleaned steel surfaces shall be primed before completion of the workday.
- c) Steel shall be cleaned by washing, brushing or other mechanical means of all residues (loose foreign matter) prior to applying the finish coat (Top Coat).

## 3. REMOVAL OF UNSATISFACTORY PAINT

If the Prime Coat "mud – cracks", the Top Coat wrinkles or show evidence of having been applied under unfavorable conditions or if the workmanship is poor, the Engineer may order it removed and the metal thoroughly cleaned and repainted. Any "Blushing" of the Vinyl Top Coat shall be corrected by solvent wiping and/or re-coating before final acceptance by the Company.

## 4. THINNING

No thinner shall be used if the paint can be applied in a neat workmanlike manner without thinning. If this paint is too thick to spray, only the manufacturer's specified thinner (in hot weather vinyl paint shall be thinned with M.I.B.K. to reduce the chances of "Blushing" occurring) may be added to the paint up to 25% by volume or as otherwise specified by the manufacturer. Thinning shall not relieve the contractor from applying the specified coating D.F.T..

## 5. PAINT TOUCH-UP

After erection, all damaged areas shall be cleaned of mud and dirt by **High Pressure Power Washing with clean water (3500 p.s.i. minimum);** grease, and

oil by *solvent wiping*; and rusted areas shall be cleaned by *sand blasting* or *power tool cleaning* with non-woven abrasives prior to touch-up or Top coating. The paint used for touch-up shall be the same system used in the shop. The contractor and/or Fabricator shall be responsible for cleaning all damaged surfaces and applying all field touch-up coatings in accordance with all manufacturers' recommendations. The Zinc Primer shall be touched up with only *Organic Zinc Primer* when applied in the field.

#### 6. WARRANTY

The fabricator and or Contractor will be required to guarantee his work against defective workmanship or the use of defective materials for a period of one (1) year from the completion of the contract.

#### 7. HANDLING SHOP PRIMED STEEL

*Only Nylon web slings or padded lifting points* shall be used to move shop primed steel to prevent damage to the coating.

#### E. ENVIRONMENTAL PROTECTION STATEMENT

"All collection, containment, disposal and transportation for disposal must be compliant with all applicable State, Federal and Local air pollution, water pollution, solid waste and hazardous waste regulations, ordinances or statutes."



**MWI 1004-01**  
**Asphalt Underlayment for**  
**Railroad Projects**

**Issued: 7/28/97 Initial Issue**  
**Page 1 of 10**

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- PURPOSE:** To provide criteria and instruction for selecting materials and construction procedures when placing an asphalt underlayment in the track structure at open track sites and at open track sites and at specific track sites – road crossings, turnouts, railroad crossings, crossovers, and bridge approaches.
- SAFETY:** Follow all applicable CSX safe job procedures and safety rules and regulations for the removal and placement of track and roadbed materials.
- LOCATION:** All CSXT tracks and property.
- ENVIRONMENTAL:** Observe all applicable Federal, State and Local environmental rules and regulations.

**I. DISCUSSION**

- A. Asphalt underlayment can be used in place of granular sub-ballast or geotextile in new construction, rehabilitation and maintenance of track. The asphalt underlayment is a mixture of paving grade asphalt cement and dense-graded mineral aggregates, similar to that used for highway pavement applications. It is produced in a common hot mix asphalt mixing plant, hauled to the site in dump trucks, spread to the desired thickness and compacted while being maintained at an elevated temperature. It is placed as a layer between the roadbed (subgrade) and the ballast.
- B. The purpose of an asphalt underlayment are to provide:
1. a strengthened track support layer below the ballast to uniformly distribute reduced pressures to the roadbed (subgrade).
  2. a waterproofing layer and confinement to the underlying roadbed thus providing consistent load-carrying capability for the track structure even on roadbeds of marginal quality;

3. an impermeable layer to divert water to adjacent ditches and to essentially eliminate roadbed (subgrade) moisture fluctuations which effectively improves and maintains underlying support;
4. a consistently high level of confinement (hardpan) for the ballast so can develop high shear stress and uniform pressure distribution.
5. a resilient layer between the ballast and roadbed to reduce the likelihood of subgrade pumping without substantially increasing track stiffness; and
6. an all weather, uniformly, stable surface for placing the ballast and track superstructure.

C. The use of asphalt underlayment is applicable to:

1. the construction of new open tracks, yards, terminals, road crossings, turnouts, railroad crossings, crossovers, and bridge approaches;
2. the total out-of-face rebuilding of existing open roadbeds, road crossings, turnouts, railroad crossings, crossovers, and bridge approaches; and
3. the rehabilitation and maintenance of short sections of open roadbeds, road crossings, turnouts, railroad crossings, crossovers, and bridge approaches under traffic.

## II. PROCEDURE

### A. Site Selection

1. Existing open roadbed locations which qualify for asphalt underlayment are those where one or more of the following conditions exist:
  - a. The location has previously been undercut or raked and has not stabilized,
  - b. The surface of the track deteriorates to a condition which requires a slow order or resurfacing in less than six months,
  - c. The settlement of the roadbed under the track causes the migration of material to the ditches or the toe of the fill.
2. Existing road crossings which qualify for asphalt underlayment are those where one or more of the following conditions exist:
  - a. The crossing has previously been completely reworked due to roadbed failure.

- b. The crossing has failed due to unstable roadbed prior to the normal timbering and surfacing maintenance cycle.
3. Existing special trackwork which qualify for asphalt underlayment are those where one or more of the following conditions exist:
    - a. The special trackwork has previously been undercut or raked with or without the installation of geotextile and failure reoccurred,
    - b. The track surface deteriorates to the extent that it must be slow ordered or resurfaced within six months,
  4. Existing bridge approaches which qualify for asphalt underlayment are those where one or more of the following conditions exist:
    - a. The approach has been previously undercut or raked and adequate drainage provided and failure reoccurred,
    - b. The surface deteriorates to the extent that it must be surfaced or protected by slow order in less than every six months.
    - c. Correction of the following conditions may be an economical alternative for track problems at bridge ends. If asphalt underlayment is determined to be required, the conditions shall be corrected in conjunction with the installation of asphalt underlayment.
      - 1) Standard embankment section at backwall, including end slopes.
      - 2) Make-shift retaining structures at or near the ballast line are not acceptable.
      - 3) End slopes shall be protected with rip rap as needed to prevent erosion.
      - 4) Embankment side ditches shall be open and properly graded. Alignment of the ditches shall be constructed to prevent the erosion of the embankment and side slopes.
      - 5) Existing drainage behind the backwall of abutments should be open and functional. If drainage structures do not exist, the need shall be evaluated and installed as required.

- 6) Track surface at bridge ends should be maintained on a regular basis. It is suggested that as equipment is being trammed, bridge ends could be surfaced in the direction away from the bridge to prevent "humps" in the track at bridge ends.
5. New construction of open track will not have asphalt underlayment installed unless a complete geotechnical investigation has determined that it is the most economical method to stabilize the roadbed.
6. All new road crossing construction with projected annual tonnage greater than 10 MGT will have underlayment.
7. All new construction of turnouts and crossovers on lines expected to carry greater than 10 MGT will have underlayment.
8. All railroad crossing diamonds, new or existing, will have underlayment installed at the time of construction or replacement, regardless of annual tonnage.
9. All new bridge construction on lines projected to carry greater than 10 MGT and all bridge reconstruction on lines carrying greater than 10 MGT will have underlayment on the approaches. In remote areas where access by construction equipment is restricted, geo-cell may be used as an alternate stabilization technique.

**B. Planning**

1. This is a critical activity, particularly for in-service track applications where the line must be taken out of service and the track removed for a period of time.
2. Adequate attention must be given to devising means to economically transport the asphalt to the site and place the asphalt on the roadbed. Access is generally not a critical concern since the asphalt can be delivered by highway or hi-rail dump truck. Availability of sufficient track time to remove and replace the track may limit the application to short sections of in-service track. These activities are discussed in more detail in the "Construction" section.
3. The critical steps in the planning process for an in-service track application are as follows:
  - a. Determine if conditions warrant an asphalt underlayment (see section IIA - Site Selection),
  - b. Determine the extent of the application, i.e., length of track to be removed and quantity of asphalt.

- c. Determine the optimum procedure for delivering the asphalt to the roadbed, i.e. dumped directly from highway dump trucks or hirailed and dumped, etc. – depending on access,
- d. Determine if a highway paving machine, dozer, or other spreading equipment will be used to spread and shape the asphalt layer.
- e. Determine the compaction procedure for the asphalt layer, and
- f. Devise the most efficient procedures to remove the existing track, excavate and dispose the existing roadbed material, and place ballast and track. These will largely depend on the extent of the application, track time availability, equipment and labor availability, and access conditions.
- g. Disposal of excavated material shall be in accordance with all applicable environmental regulations.

**C. Asphalt Mixture Design and Production**

- 1. The asphalt mixture should be similar to a dense-graded highway base mix commonly specified by the state or local highway agency. The maximum aggregate size will be 1.0 to 1.5-in. It is desirable to increase the asphalt cement content of the mix by about 0.5% above that considered to be optimum for a highway base mix.
- 2. The asphalt production facility should be capable of producing a mix meeting the specifications outlined herein and adequately sized to produce the anticipated volume of mix. The use of surge or storage silos for the mix at the plant is preferred. The mix should leave the plant at a temperature approximately 300°F and the trucks covered to minimize temperature loss. Asphalt mix production facilities meeting the local state transportation department specifications are preferred.
- 3. Pay items for an asphalt underlayment project should be defined based on the magnitude of the project and the inspection effort available. One suggested pay item for asphalt underlayment projects is by the ton. The hauling, spreading, and compacting of the mixture may or may not be included depending on the particular job. Typically it is more economical on small projects for company forces to spread and compact the mixture.
- 4. The cost of obtaining and placing asphalt underlayment will vary depending on: the cost of the aggregates and asphalt cement in the local area, the length (time) of haul from the plant to the site, the size (tonnage) of the project, the availability and cooperation of local contractors, and the ease of delivery access and construction maneuverability. The cost of asphalt underlayment can be partially or totally offset by replacing the geotextile (if considered), all or most of the granular subballast, and a portion of the ballast.

**D. Asphalt Layer Width, Length; Thickness Designs; and Quantities**

1. The asphalt layer should extend 1-1/2 to 2-ft beyond the end of the ties. This normally requires an 11 to 12-ft wide layer on single track installations.
2. The recommended limits for the use of asphalt underlayment are as follows:
  - a. Open Track -- The asphalt layer should extend a specified distance beyond ends of the immediate affected area to provide a transition zone overlapping unaffected track. The distance will vary depending on local conditions. A minimum distance of 25 to 100 ft is required.
  - b. Road Crossings – The asphalt layer should extend a specified distance beyond ends of the crossing to provide a transition zone so that subsequent track surfacing operations will not impinge on the crossing area. The distance will vary depending on local conditions. A minimum distance of 25 to 100-ft is required.
  - c. Special Trackwork – The asphalt layer should extend a specified. Distance from the special trackwork to provide a transition zone so that subsequent track surfacing operations will not impinge on the approaches. The distance will vary depending on available track time and existing track conditions. For the construction of new special trackwork or the total out-of-face rebuilding of existing special trackwork, the asphalt layer should extend for the distance of 100 ft under all tracks from the special trackwork. When rehabilitating special trackwork under traffic with limited track time, the asphalt layer should extend for the distance the approach has been adversely affected, with a minimum distance of 40 ft.
  - d. Bridge Approaches – The asphalt layer should extend a specified distance from the abutments to provide a transition zone so that subsequent track surfacing operations will not impinge on the approaches. The distance will vary depending on available track time and existing track conditions. For the construction of new bridge approaches. The distance will vary depending on available track time and existing track conditions. For the construction of new bridge approaches or the total outof0face rebuilding of existing bridge approaches, the asphalt layer should extend a distance of 200 ft from the abutment. When rehabilitating bridge approaches under traffic with limited track time, the asphalt layer should extend for the distance the approach has been adversely affected, with a minimum distance of 50 ft.

3. The thickness of the asphalt layer will vary depending on the quality of the roadbed (subgrade) support, traffic loadings, and type of installation. The thickness for the asphalt underlayment is as follows:
  - a. Open Track and Road Crossings – A 6-in. thick layer is the specified. For unusually poor roadbed support conditions, a minimum of 8-in. thickness is recommended.
  - b. Turnouts and Crossovers – A 6-in. layer is specified under turnouts and crossovers. For unusually poor roadbed support conditions, an 8-in. thickness is recommended. The asphalt thickness should be tapered to a minimum of 4-in. thickness at the end of the asphalt approach.
  - c. Railroad Crossings – An 8-in. thick layer is specified under railroad crossings. For unusually poor roadbed support conditions, a 12-in. thickness is recommended.
  - d. Bridge Approaches – An 8-in. thick layer is specified for half the distance from the abutment. The asphalt thickness is to be tapered to a minimum of 4-in. thickness at the end of the asphalt approach. For unusually poor roadbed support conditions, a 12-in. thickness is specified for half the distance from the abutment and tapered to a minimum of 4-in. thickness at the end of the asphalt approach.
  
4. The following table provides the quantities of asphalt underlayment required for Various compacted layer thickness. It is assumed that the layer is 12-ft wide and is compacted to a density of 140 lb/ft<sup>3</sup>. For estimating purposes, it is common to use 0.50 tons per track foot.

**QUANTITIES OF ASPHALT UNDERLAYMENT**

Layer Thickness, (in.)	Tons of Mix	
	Per Track Foot	Per Square Yard
4	0.28	0.21
5	0.35	0.26
6	0.42	0.32
7	0.49	0.37
8	0.56	0.42

Based on a compacted density of 140lb/ft<sup>3</sup> and a layer width of 12 ft.

**E. Ballast Thickness**

Ballast thickness normally ranges from 8 to 12-in. but should conform to standard designs. Ballast thickness will be a minimum of 8-in.

**F. Construction of Asphalt Underlayment Section**

1. The asphalt underlayment should be placed on a new subgrade or existing roadbed constructed in accordance with CSXT Standard Drawing 2601, Roadbed Sections. The roadbed should be reasonably well-compacted, well-drained, and capable of accommodating the hauling and spreading equipment without excessive rutting or deformation. Requirements are no more stringent than those typically imposed for conventional granular roadbeds. A 95% compaction level is desirable. It is sometimes necessary to place an initial layer of asphalt mix or granular material to serve as a working platform on which to compact the required thickness of asphalt underlayment. A slight crown or side slope is desirable. The need to purposefully improve surface or sub-surface drainage will depend on an analysis of the situation at the specific site.
2. New lines and extensions and new classifications and intermodal yards represent ideal conditions since the exposed subgrade is available for placing the asphalt underlayment with conventional highway asphalt paving and spreading equipment prior to placing the ballast and track.
3. For existing lines, the track must first be removed and the underlying material excavated to the desired grade (disposal of excavated material above the natural subgrade shall be in accordance with all applicable environmental regulations). The depth of the excavation will vary, depending on the replacement thickness of the asphalt and ballast layers, the depth of the existing hardpan (if one exists) and the desired track raise (if any). The depth of the excavation below the bottom of existing ties will equal the sum of the asphalt underlayment and ballast thickness minus the amount of track raise, as follows:

$$\begin{array}{rccccccc}
 \text{Depth} & & \text{Asphalt} & & \text{New} & & \text{Desired} \\
 \text{Of} & = & \text{Underlayment} & + & \text{Ballast} & - & \text{Track} \\
 \text{Excavation} & & \text{Thickness} & & \text{Thickness} & & \text{Raise}
 \end{array}$$

4. It is not desirable to excavate into the hardpan area to achieve this depth. It is acceptable to use less ballast thickness (the 8-in. minimum ballast section must be maintained) or raise the track where possible to minimize the excavation depth where the hardpan would be disturbed.
5. It is also desirable for the top of the asphalt (bottom of ballast) to be at or above the elevation of the adjacent side shoulders. This will provide positive drainage away from the ballast so that the ballast can purge itself of fines and not foul from degradation of the ballast, wind-blown fines and car droppings. In some situations it may be desirable to lower the shoulder to achieve a positive drainage away from the track.

6. The excavation should be accomplished with track-type loaders, dozers, or excavators on roadbeds (subgrade) of marginal quality. Rubber-tired equipment will likely rut and pump the roadbed unless the passages are kept to a minimum.
7. The asphalt mix is hauled by dump trucks from the mix. For short, in-service track projects where track time availability is limited, it is desirable to have all of the asphalt on site prior to the anticipated placement time. The placement of the asphalt requires a minimum period of time and should be continuous. Delays are normally experienced when trucks have to make additional rounds to the plant. The mix can be dumped directly into a standard highway asphalt paving machine for spreading or backdumped on grade and spread with a dozer blade, loader bucket, or excavator bucket. The paving machine is applicable for long sections of track. For short sections and special trackwork, it is generally more economical and expeditious to backdump on grade and spread with on-site equipment. Procedures selected for transporting and spreading the mix should be expedient to minimize temperature loss.
8. The asphalt layer is normally placed in 4-in. compacted lifts, although lifts of 6-in. can be adequately compacted. Compaction is best achieved with a standard roller, preferably a steel-wheeled, vibratory type, while the mix is between 200 to 300°F. Other means of obtaining compaction can be applied to small areas if a roller is not available, such as a "jumping jack," running a crawler-equipped machine over it repeatedly, or tamping with the backside of a backhoe or loader bucket. A well-compacted layer with minimum air voids (less than 5%) is desirable, but is difficult to achieve if the mix chills excessively before compaction, if the compactive effort is insufficient, or if the underlying support is weak. A compaction level of 95% or higher is desired. Ideally, the top surface of the asphalt should be slightly crowned or sloped to facilitate surface drainage. This can be accomplished by adjusting the screed on the paver or by tilting the blade on the dozer.
9. After the asphalt layer is compacted, the track can be rebuilt or dragged back on the hot asphalt layer. The use of rubber-tire equipment is preferred. Cranes can be used to lift panels. Snaking techniques are applicable for longer track panels. Adequate space must be available to facilitate removal and replacement of the track panels and provide access for the asphalt paving operations.
10. The ballast can be distributed with conventional unloading and spreading equipment. However, it is desirable to preballast prior to placing the track panel when conditions permit. This will expedite the process. Ideally the preballast can be compacted with a vibratory roller (already on-site and previously used to compact the asphalt) to grade so the track panel can be positioned at the desired elevation. It is possible to eliminate or minimize the need to surface the track using the compacted preballast procedure unless the approaches have to be raised. Normally the track panels must be lifted into place on the ballast layer. Dragging the track will likely disturb the compacted ballast. Additional ballast will be distributed with a loader or dropped from ballast cars to fill the crib areas between the ties and provide a 6 to 12-in. wide shoulder.

### III. Reports

None.

Prepared by: J. G. Rose, Ph.D.  
Professor of Civil Engineering  
University of Kentucky

Reviewed: \_\_\_\_\_ signed \_\_\_\_\_  
Director – Standards & Testing

Approved: \_\_\_\_\_ signed \_\_\_\_\_  
AVP – Equipment & Track Systems Engineering

Office of the Assistant Vice President – Equipment and Track Systems Engineering  
Jacksonville, Florida  
MWI 1004-01, July 28, 1997

*The original document was lost in a LAN Drive failure. It was retyped from the signed hardcopy. You will noted that the margins have been changed and the document has a different appearance. The content of this document has not be changed.*

**CSXT SPECIAL PROVISIONS**

## CSXT SPECIAL PROVISIONS

### I. AUTHORITY OF CSXT ENGINEER

The CSXT Representative shall have final authority in all matters affecting the safe maintenance of CSXT operations and CSXT property, and his or her approval shall be obtained by the Agency or its Contractor for methods of construction to avoid interference with CSXT operations and CSXT property and all other matters contemplated by the Agreement and these Special Provisions.

### II. INTERFERENCE WITH CSXT OPERATIONS

- A. Agency or its Contractor shall arrange and conduct its work so that there will be no interference with CSXT operations, including train, signal, telephone and telegraphic services, or damage to CSXT's property, or to poles, wires, and other facilities of tenants on CSXT's Property or right-of-way. Agency or its Contractor shall store materials so as to prevent trespassers from causing damage to trains, or CSXT Property. Whenever Work is likely to affect the operations or safety of trains, the method of doing such Work shall first be submitted to the CSXT Representative for approval, but such approval shall not relieve Agency or its Contractor from liability in connection with such Work.
- B. If conditions arising from or in connection with the Project require that immediate and unusual provisions be made to protect train operation or CSXT's property, Agency or its Contractor shall make such provision. If the CSXT Representative determines that such provision is insufficient, CSXT may, at the expense of Agency or its Contractor, require or provide such provision as may be deemed necessary, or cause the Work to cease immediately.

### III. NOTICE OF STARTING WORK

Agency or its Contractor shall not commence any work on CSXT Property or rights-of-way until it has complied with the following conditions:

- A. Notify CSXT in writing of the date that it intends to commence Work on the Project. Such notice must be received by CSXT at least ten (10) business days in advance of the date Agency or its Contractor proposes to begin Work on CSXT property. The notice must refer to this Agreement by date. If flagging service is required, such notice shall be submitted at least thirty (30) business days in advance of the date scheduled to commence the Work.
- B. Obtain authorization from the CSXT Representative to begin Work on CSXT property, such authorization to include an outline of specific conditions with which it must comply.
- C. Obtain from CSXT the names, addresses and telephone numbers of CSXT's personnel who must receive notice under provisions in the Agreement. Where more than one individual is designated, the area of responsibility of each shall be specified.

### IV. WORK FOR THE BENEFIT OF THE CONTRACTOR

- A. No temporary or permanent changes to wire lines or other facilities (other than third party fiber optic cable transmission systems) on CSXT property that are considered necessary to the Work are anticipated or shown on the Plans. If any such changes are, or become, necessary in the opinion of CSXT or Agency, such changes will be covered by appropriate revisions to the Plans and by preparation of a force account estimate. Such force account estimate may be initiated by either CSXT or Agency, but must be approved by both CSXT and Agency. Agency or Contractor shall be responsible for arranging for the relocation of the third party fiber optic cable transmission systems, at no cost or expense to CSXT.
- B. Should Agency or Contractor desire any changes in addition to the above, then it shall make separate arrangements with CSXT for such changes to be accomplished at the Agency or Contractor's expense.

### V. HAUL ACROSS RAILROAD

- A. If Agency or Contractor desires access across CSXT property or tracks at other than an existing and open public road crossing in or incident to construction of the Project, the Agency or Contractor must first obtain the permission of CSXT and shall execute a license agreement or right of entry satisfactory to CSXT, wherein Agency or Contractor agrees to bear all costs and liabilities related to such access.
- B. Agency and Contractor shall not cross CSXT's property and tracks with vehicles or equipment of any kind or character, except at such crossing or crossings as may be permitted pursuant to this section.

### VI. COOPERATION AND DELAYS

- A. Agency or Contractor shall arrange a schedule with CSXT for accomplishing stage construction involving work by CSXT. In arranging its schedule, Agency or Contractor shall ascertain, from CSXT, the lead time required for assembling crews and materials and shall make due allowance therefore.

- B. Agency or Contractor may not charge any costs or submit any claims against CSXT for hindrance or delay caused by railroad traffic; work done by CSXT or other delay incident to or necessary for safe maintenance of railroad traffic; or for any delays due to compliance with these Special Provisions.
- C. Agency and Contractor shall cooperate with others participating in the construction of the Project to the end that all work may be carried on to the best advantage.
- D. Agency and Contractor understand and agree that CSXT does not assume any responsibility for work performed by others in connection the Project. Agency and Contractor further understand and agree that they shall have no claim whatsoever against CSXT for any inconvenience, delay or additional cost incurred by Agency or Contractor on account of operations by others.

## VII. STORAGE OF MATERIALS AND EQUIPMENT

Agency and Contractor shall not store their materials or equipment on CSXT's property or where they may potentially interfere with CSXT's operations, unless Agency or Contractor has received CSXT Representative's prior written permission. Agency and Contractor understand and agree that CSXT will not be liable for any damage to such materials and equipment from any cause and that CSXT may move, or require Agency or Contractor to move, such material and equipment at Agency's or Contractor's sole expense. To minimize the possibility of damage to the railroad tracks resulting from the unauthorized use of equipment, all grading or other construction equipment that is left parked near the tracks unattended by watchmen shall be immobilized to the extent feasible so that it cannot be moved by unauthorized persons.

## VIII. CONSTRUCTION PROCEDURES

### A. General

- 1. Construction work on CSXT property shall be subject to CSXT's inspection and approval.
- 2. Construction work on CSXT property shall be in accord with CSXT's written outline of specific conditions and with these Special Provisions.
- 3. Contractor shall observe the terms and rules of the CSXT Safe Way manual, which Agency and Contractor shall be required to obtain from CSXT, and in accord with any other instructions furnished by CSXT or CSXT's Representative.

### B. Blasting

- 1. Agency or Contractor shall obtain CSXT Representative's and Agency Representative's prior written approval for use of explosives on or adjacent to CSXT property. If permission for use of explosives is granted, Agency or Contractor must comply with the following:
  - a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of Agency or Contractor.
  - b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
  - c. No blasting shall be done without the presence of an authorized representative of CSXT. At least thirty (30) days advance notice to CSXT Representative is required to arrange for the presence of an authorized CSXT representative and any flagging that CSXT may require.
  - d. Agency or Contractor must have at the Project site adequate equipment, labor and materials, and allow sufficient time, to (i) clean up (at Agency's expense) debris resulting from the blasting without any delay to trains; and (ii) correct (at Agency's expense) any track misalignment or other damage to CSXT's property resulting from the blasting, as directed by CSXT Representative, without delay to trains. If Agency's or Contractor's actions result in delay of any trains, including Amtrak passenger trains, Agency shall bear the entire cost thereof.
  - e. Agency and Contractor shall not store explosives on CSXT property.
- 2. CSXT Representative will:
  - a. Determine the approximate location of trains and advise Agency or Contractor of the approximate amount of time available for the blasting operation and clean-up.
  - b. Have the authority to order discontinuance of blasting if, in his or her opinion, blasting is too hazardous or is not in accord with these Special Provisions.

IX. MAINTENANCE OF DITCHES ADJACENT TO CSXT TRACKS

Agency or Contractor shall maintain all ditches and drainage structures free of silt or other obstructions that may result from their operations. Agency or Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either (1) silt fence; (2) hay or straw barrier; (3) berm or temporary ditches; (4) sediment basin; (5) aggregate checks; and (6) channel lining. All such maintenance and repair of damages due to Agency's or Contractor's operations shall be performed at Agency's expense.

X. FLAGGING / INSPECTION SERVICE

- A. CSXT has sole authority to determine the need for flagging required to protect its operations and property. In general, flagging protection will be required whenever Agency or Contractor or their equipment are, or are likely to be, working within fifty (50) feet of live track or other track clearances specified by CSXT, or over tracks.
- B. Agency shall reimburse CSXT directly for all costs of flagging that is required on account of construction within CSXT property shown in the Plans, or that is covered by an approved plan revision, supplemental agreement or change order.
- C. Agency or Contractor shall give a minimum of thirty (30) days advance notice to CSXT Representative for anticipated need for flagging service. No work shall be undertaken until the flag person(s) is/are at the job site. If it is necessary for CSXT to advertise a flagging job for bid, it may take up to ninety (90) days to obtain this service, and CSXT shall not be liable for the cost of delays attributable to obtaining such service.
- D. CSXT shall have the right to assign an individual to the site of the Project to perform inspection service whenever, in the opinion of CSXT Representative, such inspection may be necessary. Agency shall reimburse CSXT for the costs incurred by CSXT for such inspection service. Inspection service shall not relieve Agency or Contractor from liability for its Work.
- E. CSXT shall render invoices for, and Agency shall pay for, the actual pay rate of the flagpersons and inspectors used, plus standard additives, whether that amount is above or below the rate provided in the Estimate. If the rate of pay that is to be used for inspector or flagging service is changed before the work is started or during the progress of the work, whether by law or agreement between CSXT and its employees, or if the tax rates on labor are changed, bills will be rendered by CSXT and paid by Agency using the new rates. Agency and Contractor shall perform their operations that require flagging protection or inspection service in such a manner and sequence that the cost of such will be as economical as possible.

XI. UTILITY FACILITIES ON CSXT PROPERTY

Agency shall arrange, upon approval from CSXT, to have any utility facilities on or over CSXT Property changed as may be necessary to provide clearances for the proposed trackage.

XII. CLEAN-UP

Agency or Contractor, upon completion of the Project, shall remove from CSXT's Property any temporary grade crossings, any temporary erosion control measures used to control drainage, all machinery, equipment, surplus materials, falsework, rubbish, or temporary buildings belonging to Agency or Contractor. Agency or Contractor, upon completion of the Project, shall leave CSXT Property in neat condition, satisfactory to CSXT Representative.

XIII. FAILURE TO COMPLY

If Agency or Contractor violate or fail to comply with any of the requirements of these Special Provisions, (a) CSXT may require Agency and/or Contractor to vacate CSXT Property; and (b) CSXT may withhold monies due Agency and/or Contractor; (c) CSXT may require Agency to withhold monies due Contractor; and (d) CSXT may cure such failure and the Agency shall reimburse CSXT for the cost of curing such failure.



Route FAU 1537
Section 06-00050-00
County Cook County

Marked Rte. 71st Street
Project No. CRE-9003(709)
Contract No. 63556

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Bill Cronch
Print Name
Director of Public Works
Title
Village of Bridgeview
Agency

Bill Cronch
Signature
12/22/10
Date

I. Site Description:

A. Provide a description of the project location (include latitude and longitude):

71st Street (FAU 1537) at CSXT/ IHB Railroad.
Limits: From 750 ft west of the CSXT Railroad tracks to Beloit Avenue.
Latitude & Longitude at project center - Latitude: 41 deg, 45 min, 45 sec ; Longitude: -87 deg, 48 min, 36 sec

B. Provide a description of the construction activity which is the subject of this plan:

This is a grade separation project. The CSXT Railroad will be elevated by a bridge structure and 71st Street will now cross the railroads tracks as an underpass. The private driveway entrance owned by PepsiCo will also be modified to match the proposed grade and a new entrance to Toyota Park will be constructed. A pump station will be installed to accommodate the roadway drainage which can no longer drain under gravity flow. Due to the nature of the project, there will be large amount of excavation and re-grading activity.

C. Provide the estimated duration of this project:

1 year

D. The total area of the construction site is estimated to be 10.83 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 9.83 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

0.72

F. List all soils found within project boundaries. Include map unit name, slope information, and erosivity:

IDNR has not performed soil mapping in this area. A Subsurface Exploration and Structure Geotechnical Report was prepared for the site by Ground Engineering Consultants, Inc. This report was submitted to AECOM on

October 27, 2010. The report indicates that there is about 1-5 ft of fill material (topsoil and silty clay with some stone and sand and crushed stone). The fill soils are underlain by very stiff hard brown and gray silty clay which extended to a depth of 11-13 ft below grade. Below the brown clay, the borings encountered gray colored silty clay with a consistency of very stiff to hard extending to the end of the borings. The natural soils are very stiff to hard and will provide good support for the pavement.

- G. Identify any hydric soils onsite, and provide an estimate of the number of acres that will likely be disturbed:

No hydric soils were identified for this project.

- H. Provide a description of potentially erosive areas associated with this project:

Pump station outlet, ditches

- I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of slopes, etc):

STA 15+50 - STA 30+75 (71<sup>ST</sup> ST):

1,525 ft of roadway reconstruction and installation of the proposed railroad bridge involves excavation depths up to 250 ft from the existing ground. Longitudinal slope of roadway at final proposed conditions ranges from 0.35% - 4.81%.

STA 19+40 - STA 21+00 (71<sup>ST</sup> ST, Right Side):

160 ft trapezoidal ditch excavation, 2' bottom, 3H:1V side slopes, 0.5% longitudinal slope

STA 20+82.63 - STA 21+50 (71<sup>ST</sup> ST, Left Side):

67.37 ft trapezoidal ditch excavation, 2' bottom, 3H:1V side slopes, 1.50% longitudinal slope

STA 24+50 (71<sup>ST</sup> ST, Right Side) - STA 59+00 (FERDINAND, Left Side):

253 ft trapezoidal ditch excavation, 2' bottom, 3H:1V side slopes, 0.50%-1.00% longitudinal slopes

STA 58+75 (FERDINAND, Right Side) - STA 27+50 (71<sup>ST</sup>, Right Side):

109 ft trapezoidal ditch excavation, 2' bottom, 3H:1V side slopes, 0.50% longitudinal slope

STA 25+50 - STA 27+83 (71<sup>ST</sup> ST, Left Side):

233 ft trapezoidal ditch excavation, 2' bottom, 3H:1V side slopes, 0.80% longitudinal slope

TOYOTA PARK DETENTION BASINS:

109,854 cu ft of excavation is required to re-grade the detention basin to accommodate the additional tributary flow from the underpass. The proposed basin has 3H:1V side slopes.

- J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

- K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Village of Bridgeview

- L. The following is a list of receiving water(s) and the ultimate receiving water(s), and aerial extent of wetland acreage at the site. The location of the receiving waters can be found on the erosion and sediment control plans:

Chicago Sanitary & Ship Canal

- M. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

- N. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- Floodplain  
 Wetland Riparian

- Threatened and Endangered Species
- Historic Preservation
- 303(d) Listed Receiving Waters
- Receiving Waters with Total Maximum Daily Load (TMDL)
- Applicable Federal, Tribal, State or Local Programs
- Other

1. 303(d) Listed Receiving Waters (fill out this section if checked above):

- a. The name(s) of the listed water body, and identification of all pollutants causing impairment:
- b. A description of how Erosion and Sediment Control Practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a 25-year, 24-hour rainfall event, if the receiving water is listed as impaired for sediment or a parameter that addresses sediment (such as total suspended solids, turbidity, or siltation):
- c. If pollutants other than sediment are identified as causing the impairment, provide a description of how Pollution Prevention BMPs will be incorporated into the site design to prevent their discharge.
- d. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:
- e. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

2. TMDL (fill out this section if checked above)

- a. The name(s) of the listed water body:
- b. Provide a description of the Erosion and Sediment Control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:
- c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

O. The following pollutants of concern will be associated with this construction project:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Soil Sediment             | <input type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input checked="" type="checkbox"/> Concrete                  | <input checked="" type="checkbox"/> Antifreeze / Coolants                               |
| <input checked="" type="checkbox"/> Concrete Truck Waste      | <input checked="" type="checkbox"/> Waste water from cleaning construction equipment    |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify)  |
| <input checked="" type="checkbox"/> Solid Waste Debris        | <input type="checkbox"/> Other (specify)  |
| <input checked="" type="checkbox"/> Paints                    | <input type="checkbox"/> Other (specify)  |
| <input checked="" type="checkbox"/> Solvents                  | <input type="checkbox"/> Other (specify)  |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides  | <input type="checkbox"/> Other (specify)  |

## II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the contractor will be responsible for its implementation as indicated. The contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the permit. 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.

Where the initiation of stabilization measures by the 7<sup>th</sup> 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 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 type="checkbox"/> Permanent Seeding                            | <input type="checkbox"/> Other (specify)                               |

Describe how the Stabilization Practices listed above will be utilized during construction:

Tree Protection will be utilized during construction to protect the existing trees to remain in place. The Erosion Control Blanket / Mulching will be utilized during construction to decrease the movement of sediment within the project site.

Describe how the Stabilization Practices listed above will be utilized after construction activities have been completed:

Temporary Erosion Control Seeding will be utilized on all slopes 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 ceased except as noted below:

a) Where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceases on a portion of the site is precluded by snow cover, stabilization measures shall be initiated as soon as possible.

b) Where construction activity will resume on a portion of the site within 14 days from when activities are ceased, then stabilization measures do not have to be initiated on that portion of the site by the 7th day after construction activity temporarily ceased.

Sodding will be utilized after construction has ceased to develop permanent grassed areas.

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 type="checkbox"/> Rock Outlet Protection |
| <input type="checkbox"/> Temporary Ditch Check                | <input type="checkbox"/> Riprap                 |

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Gabions                 |
| <input type="checkbox"/> Sediment Trap                           | <input type="checkbox"/> Slope Mattress          |
| <input type="checkbox"/> Temporary Pipe Slope Drain              | <input type="checkbox"/> Retaining Walls         |
| <input type="checkbox"/> Temporary Sediment Basin                | <input type="checkbox"/> Slope Walls             |
| <input type="checkbox"/> Temporary Stream Crossing               | <input type="checkbox"/> Concrete Revetment Mats |
| <input type="checkbox"/> Stabilized Construction Exits           | <input type="checkbox"/> Level Spreaders         |
| <input type="checkbox"/> Turf Reinforcement Mats                 | <input type="checkbox"/> Other (specify)         |
| <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 during construction:

Perimeter erosion barrier will be used at the perimeter of the construction limits to protect all non-disturbed areas from sediment laden runoff. Inlet protection will help protect the proposed catch basins and inlets from debris transported via runoff during construction.

Describe how the Structural Practices listed above will be utilized after construction activities have been completed:

N/A

3. **Storm Water Management:** Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- a. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the Illinois Department of Transportation Bureau of Design and Environment Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

- b. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of Storm Water Management Controls:

Pump Station - The proposed pump station will be used to pump the runoff from 71<sup>st</sup> Street into the existing Toyota Park detention basin system.

Detention Basin - The two existing detention basins on the west side of Toyota Park will be utilized as temporary detention for the 71<sup>st</sup> Street runoff. The smaller detention basin on the west side will be expanded to accommodate the additional flow that did not previously drain into this system.

Open Ditches - Open ditches will be provided at some locations along 71<sup>st</sup> Street and Ferdinand Avenue to attenuate the flow before it enters the trunk 84" storm sewer.

4. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

Metropolitan Water Reclamation District of Greater Chicago (MWRD) - Schedule D Detention Permit must be obtained for the project before construction.

#### 5. Contractor Required Submittals

- a. Contractor is to provide a Construction Schedule containing an adequate level of detail to show major activities with implementation of Pollution Prevention BMPs, including the following items:
- Approximate duration of the project, including each stage of the project
  - Rainy season, dry season, and winter shutdown dates
  - Temporary stabilization measures to be employed by contract phases
  - Mobilization timeframe
  - Mass clearing and grubbing/roadside clearing dates
  - Deployment of Erosion Control Practices
  - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
  - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
  - Paving, saw-cutting, and any other pavement related operations
  - Major planned stockpiling operations
  - Timeframe for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
  - Permanent stabilization activities for each area of the project
- b. Contractor is to provide a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
- Vehicle Entrances and Exits – Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
  - Material Delivery, Storage and Use – Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
  - Stockpile Management – Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
  - Waste Disposal – Discuss methods of waste disposal that will be used for this project.
  - Spill Prevention and Control – Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
  - Concrete Residuals and Washout Wastes – Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
  - Litter Management – Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
  - Vehicle and Equipment Fueling – Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Vehicle and Equipment Cleaning and Maintenance – Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.

#### III. Maintenance:

The Resident Engineer will provide maintenance guides to the contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan.

#### IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using the Department's Storm Water Pollution Prevention Plan Erosion Control Inspection Report (BC 2259). Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inch or greater or equivalent snowfall.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: [epa.swnoncomp@illinois.gov](mailto:epa.swnoncomp@illinois.gov), telephone or fax within 24 hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Noncompliance" (ION) report for the identified violation within 5 days of the incident. The Resident Engineer shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of

noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the 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. Failure to Comply:**

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the contractor and/or penalties under the NPDES permit which could be passed on to the contractor.



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.

Route _____	Marked Rte. _____
Section _____	Project No. _____
County _____	Contract No. _____

This certification statement is part of the Storm Water Pollution Prevention Plan for the project described above, in accordance with General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the 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.

In addition, 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 received copies of all appropriate maintenance procedures; and, 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	_____ Signature
_____ Title	_____ Date
_____ Name of Firm	_____ Telephone
_____ Street Address	_____ City/State/ZIP

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# Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

## Division of Water Pollution Control Notice of Intent (NOI) for General Permit to Discharge Storm Water Associated with Construction Site Activities

*This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.*

For Office Use Only

### OWNER INFORMATION

Permit No. ILR10 \_\_\_\_\_

Company/Owner Name: Village of Bridgeview  
Mailing Address: 7500 South Oketo Avenue Phone: (708) 924-8051  
City: Bridgeview State: IL Zip: 60455 Fax: --  
Contact Person: Bill Cronch E-mail: bcronch@villageofbridgeview.com  
Owner Type (select one) City

### CONTRACTOR INFORMATION

MS4 Community:  Yes  No

Contractor Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Fax: \_\_\_\_\_

### CONSTRUCTION SITE INFORMATION

Select One:  New  Change of information for: ILR10 \_\_\_\_\_  
Project Name: 71st Street (FAU 1537) at CSXT / IHB Railroad Crossing County: Cook  
Street Address: W. 71st Street City: Bridgeview IL Zip: 60455  
Latitude: 41 45 45 Longitude: -87 48 36 24 & 25 38N 12E  
(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range  
Approximate Construction Start Date 5/16/2011 Approximate Construction End Date 5/25/2012

Total size of construction site in acres: 10.83  
If less than 1 acre, is the site part of a larger common plan of development?  
 Yes  No

Fee Schedule for Construction Sites:  
Less than 5 acres - \$250  
5 or more acres - \$750

### STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Has the SWPPP been submitted to the Agency?  Yes  No  
(Submit SWPPP electronically to: [epa.constilr10swppp@illinois.gov](mailto:epa.constilr10swppp@illinois.gov))  
Location of SWPPP for viewing: Address: Project Site City: Bridgeview  
SWPPP contact information: Inspector qualifications:  
Contact Name: Bill Cronch  
Phone: (708) 924-8051 Fax: -- E-mail: bcronch@villageofbridgeview.com  
Project inspector, if different from above Inspector qualifications:  
Inspector's Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

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**TYPE OF CONSTRUCTION (select one)**

Construction Type Transportation

SIC Code: \_\_\_\_\_

Type a detailed description of the project:

This is a grade separation project. The CSXT Railroad will be elevated by a bridge structure and 71st Street will now cross the railroads tracks as an underpass. The private driveway entrance owned by PepsiCo will also be modified to match the proposed grade and a new entrance to Toyota Park will be constructed. A pump station will be installed to accommodate the roadway drainage which can no longer drain under gravity flow. Due to the nature of the project, there will be large amount of excavation and re-grading activity.

**HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE**

Has the project been submitted to the following state agencies to satisfy applicable requirements for compliance with Illinois law on:

Historic Preservation Agency  Yes  No

Endangered Species  Yes  No

**RECEIVING WATER INFORMATION**

Does your storm water discharge directly to:  Waters of the State or  Storm Sewer

Owner of storm sewer system: Village of Bridgeview

Name of closest receiving water body to which you discharge: Chicago Sanitary & Ship Canal

Mail completed form to: Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attn: Permit Section  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
or call (217) 782-0610  
FAX: (217) 782-9891

Or submit electronically to: [epa.constilr10swppp@illinois.gov](mailto:epa.constilr10swppp@illinois.gov)

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.

*Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))*

Bill Cronch  
Owner Signature:

12/22/10

Date:

Bill CRONCH  
Printed Name:

Director of Public Works  
Title:

## TEMPORARY SHEET PILING

Effective: September 2, 1994

Revised: January 1, 2007

Description. This work shall consist of furnishing, driving, adjusting for stage construction when required and subsequent removal of the sheet piling according to the dimensions and details shown on the plans and according to the applicable portions of Section 512 of the Standard Specifications.

This work shall also include furnishing, installing and subsequent removal of all miscellaneous steel shapes, plates and connecting hardware when required to attach the sheeting to an existing substructure unit and/or to facilitate stage construction.

General. The Contractor may propose other means of supporting the sides of the excavation provided they are done so at no extra cost to the department. If the Contractor elects to vary from the design requirements shown on the plans, the revised design calculations and details shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Material. The sheet piling shall be made of steel and may be new or used material, at the option of the Contractor. The sheet piling shall have a minimum section modulus as shown on the plans or in the approved Contractor's alternate design. The sheeting shall have a minimum yield strength of 38.5 ksi (265 MPa) unless otherwise specified. The sheeting, used by the Contractor, shall be identifiable and in good condition free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer's approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor's expense.

Construction. The Contractor shall verify locations of all underground utilities before driving any sheet piling. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design. The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related excavation. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Department prior to allowing excavation adjacent to the sheet piling in question. The Contractor shall not excavate below the maximum excavation line shown on the plans without the prior permission of the Engineer. The sheet piling shall remain in place until the Engineer determines it is no longer required.

The sheet piling shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the sheet piling leaving the remainder in place. The remaining sheet piling shall be a minimum of 12 in. (300 mm) below

the finished grade or as directed by the Engineer. Removed sheet piling shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where it's presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven through or around with normal driving procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary sheet piling will be measured for payment in place in square feet (square meter). Any temporary sheet piling cut off, left in place, or driven to dimensions other than those shown on the contract plans without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's expense.

If the Contractor is unable to drive the sheeting to the specified tip elevation(s) and can demonstrate that any further effort to drive it would only result in damaging the sheeting, then the Contractor shall be paid based on the plan quantity of temporary sheeting involved. However, no additional payment will be made for any walers, bracing, or other supplement to the temporary sheet piling, which may be required as a result of the re-evaluation in order to insure the original design intent was met.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for TEMPORARY SHEET PILING.

Payment for any excavation performed in conjunction with this work will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

## **DRILLED SOLDIER PILE RETAINING WALL**

Effective: September 20, 2001

Revised: October 9, 2009

Description. This work shall consist of providing all labor, materials, and equipment necessary to fabricate and furnish the soldier piles, create and maintain the shaft excavations, set and brace the soldier piles into position and encase the soldier piles in concrete to the specified elevation. Also included in this work is the backfilling of the remainder of the shaft excavation with Controlled Low-Strength Material (CLSM), the furnishing and installation of the timber lagging, and the furnishing and installation of CLSM secant lagging. All work shall be according to the details shown on the plans and as directed by the Engineer.

The remainder of the retaining wall components as shown on the plans, such as concrete facing, shear studs, reinforcement bars, tie backs, hand rails, and various drainage items etc., are not included in this Special Provision but are paid for as specified elsewhere in this Contract.

Materials. The materials used for the soldier piles and lagging shall satisfy the following requirements:

- (a) The structural steel components for the soldier piles shall conform to the requirements of AASHTO M270, Grade 36 (M270M Grade 250), unless otherwise designated on the plans.
- (b) The soldier pile encasement concrete shall be Class DS according to Section 1020, except the mix design shall be as follows:
  - (1) When the plans specify that soil and ground water sulfate contaminates exceed 500 parts per million, a Type V cement shall be required. The cement shall be increased 60 lb./cu. yd. (35 kg/cu m) if the concrete is to be placed under water.
  - (2) If concrete is placed to displace drilling fluid or against temporary casing, the slump shall be  $8 \pm 1$  in. (200 mm  $\pm$  25 mm) at point of placement.
- (c) The Controlled Low-Strength Material (CLSM), used for backfilling shaft excavations above the soldier pile encasement concrete and for backfilling secant lagging excavations, to the existing ground surface, shall be according to Article 1019.
- (d) Temporary casing shall be produced by electric seam, butt, or spiral welding to produce a smooth wall surface, fabricated from steel satisfying ASTM A252 Grade 2. The minimum wall thickness shall be as required to resist the anticipated installation and dewatering stresses, as determined by the Contractor, but in no case less than 1/4 in. (6 mm).
- (e) Drilling slurry shall consist of a polymer or mineral base material. Mineral slurry shall have both a mineral grain size that will remain in suspension with sufficient viscosity and gel characteristics to transport excavated material to a suitable screening system. The percentage and specific gravity of the material used to make the suspension shall be

sufficient to maintain the stability of the excavation and to allow proper concrete placement. For polymer slurry, the calcium hardness of the mixing water shall not exceed 100 mg/L.

- (f) Timber Lagging. The minimum tabulated unit stress in bending ( $F_b$ ), used for the design of the timber lagging, shall be 1000 psi (6.9 MPa) unless otherwise specified on the plans. When treated timber lagging is specified on the plans, the method of treatment shall be according to Article 1007.12. All timber shall meet the inspection requirements of Article 1007.01.

Equipment. The drilling equipment shall have adequate capacity, including power, torque and down thrust, to create a shaft excavation of the maximum diameter specified to a depth of 20 percent beyond the depths shown on the plans. Concrete equipment shall be according to Article 1020.03.

Construction Requirements. The shaft excavation for each soldier pile shall extend to the tip elevation indicated on the plans for soldier piles terminating in soil or to the required embedment in rock when rock is indicated on the contract plans. The Contractor shall satisfy the following requirements:

- (a) Drilling Methods. The soldier pile installation shall be according to 516.06(a),(b), or(c)

No shaft excavation shall be made adjacent to a soldier pile with encasement concrete that has a compressive strength less than 1500 psi (10.35 MPa), nor adjacent to secant lagging until the CLSM has reach sufficient strength to maintain it's position and shape unless otherwise approved by the Engineer. Materials removed or generated from the shaft excavations shall be disposed of by the Contractor according to Article 202.03. Excavation by blasting will not be permitted.

- (b) Drilling Slurry. During construction, the level of the slurry shall be maintained at a height sufficient to prevent caving of the hole. In the event of a sudden or significant loss of slurry to the hole, the construction of that shaft shall be stopped and the shaft excavation backfilled or supported by temporary casing until a method to stop slurry loss, or an alternate construction procedure, has been developed and approved by the Engineer.
- (c) Obstructions. Obstructions shall be defined as any object (such as but not limited to, boulders, logs, old foundations, etc.) that cannot be removed with normal earth drilling procedures, but requires special augers, tooling, core barrels or rock augers to remove the obstruction. When obstructions are encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to core, break up, push aside, or remove the obstruction. Lost tools or equipment in the excavation, as a result of the Contractor's operation, shall not be defined as obstructions and shall be removed at the Contractor's expense.
- (d) Top of Rock. The top of rock will be considered as the point where rock, defined as bedded deposits and conglomerate deposits exhibiting the physical characteristics and difficulty of rock removal as determined by the Engineer, is encountered which cannot be drilled with earth augers and/or underreaming tools configured to be effective in the soils indicated in

the contract documents, and requires the use of special rock augers, core barrels, air tools, blasting, or other methods of hand excavation.

- (e) Design Modifications. If the top of rock elevation encountered is below that estimated on the plans, such that the soldier pile length above rock is increased by more than 10 percent, the Engineer shall be contacted to determine if any soldier pile design changes are required. In addition, if the type of soil or rock encountered is not similar to that shown in the subsurface exploration data, the Engineer shall be contacted to determine if revisions are necessary.
- (f) Soldier Pile Fabrication and Placement. The soldier pile is defined as the structural steel section(s) shown on the plans as well as any connecting plates used to join multiple sections. The types of soldier piles shall be defined as HP, W Sections, or Built-Up Sections. Cleaning and painting of all steel components, when specified, shall be as shown on the plans and accomplished according to the special provision for "Cleaning and Painting New Metal Structures". This work will not be paid for separately, but shall be considered included in the cost of Furnishing Soldier Piles of the type specified.

The soldier pile shall be shop fabricated such that no field welding is required. The Contractor shall attach suitable bracing or support to maintain the position of the soldier pile within the shaft excavation such that the final location will satisfy the Construction Tolerances portion of this Special Provision. The bracing or supports shall remain in place until the concrete for encasement has reached a minimum compressive strength of 1500 psi (10.35 MPa).

When embedment in rock is indicated on the plans, modification to the length of a soldier pile may be required to satisfy the required embedment. The modification shall be made to the top of the soldier pile unless otherwise approved by the Engineer. When the top of rock encountered is above the estimated elevation indicated on the plans, the soldier piles shall be cut to the required length. If the top of rock encountered is below that estimated on the plans, the Contractor shall either furnish longer soldier piles or splice on additional length of soldier pile per Article 512.05(a) to satisfy the required embedment in rock. In order to avoid delays, the Contractor may have additional soldier pile sections fabricated as necessary to make the required adjustments. Additional soldier pile quantities, above those shown on the plans, shall not be furnished without prior written approval by the Engineer.

- (g) Concrete Placement. Concrete work shall be performed according to Article 516.12 and as specified herein.

The soldier pile encasement concrete pour shall be made in a continuous manner from the bottom of the shaft excavation to the elevation indicated on the plans. Concrete shall be placed as soon as possible after the excavation is completed and the soldier pile is secured in the proper position. Uneven levels of concrete placed in front, behind, and on the sides of the soldier pile shall be minimized to avoid soldier pile movement, and to ensure complete encasement.

Following the soldier pile encasement concrete pour, the remaining portion of the shaft excavation shall be backfilled with CLSM according to Section 593. CLSM Secant lagging placement shall be placed as soon as practical after the shaft excavation is cleared.

- (h) Construction Tolerances. The soldier piles shall be drilled and located within the excavation to satisfy the following tolerances:
- (1) The center of the soldier pile shall be within 1 1/2 in. (38 mm) of plan station and 1/2 in. (13 mm) offset at the top of the shaft.
  - (2) The out of vertical plumbness of the soldier pile shall not exceed 0.83 percent.
  - (3) The top of the soldier pile shall be within  $\pm 1$  in. ( $\pm 25$  mm) of the plan elevation.
- (i) Timber Lagging. Timber lagging, when required by the plans, installed below the original ground surface, shall be placed from the top down as the excavation proceeds. Lagging shown above grade shall be installed and backfilled against prior to installing any permanent facing to minimize post construction deflections. Over-excavation required to place the timber lagging behind the flanges of the soldier piles shall be the minimum necessary to install the lagging. Any voids produced behind the lagging shall be filled with porous granular embankment at the Contractors expense. When the plans require the Contractor to design the timber lagging, the design shall be based on established practices published in FHWA or AASHTO documents considering lateral earth pressure, construction loading, traffic surcharges and the lagging span length(s). The nominal thickness of the lagging selected shall not be less than 3 in. (75 mm) and shall satisfy the minimum tabulated unit stress in bending ( $F_b$ ) stated elsewhere in this Special Provision. The Contractor shall be responsible for the successful performance of the lagging system until the concrete facing is installed. When the nominal timber lagging thickness(s) and allowable stress are specified on the plans, the timber shall be rough cut or surfaced and in accordance with Article 1007.03.
- (j) Structure Excavation. When structure excavation is necessary to place a concrete facing, it shall be made and paid for according to Section 502 except that the horizontal limits for structure excavation shall be from the face of the soldier pile to a vertical plane 2 ft. (600 mm) from the finished face of the wall. The depth shall be from the top of the original ground surface to the bottom of the concrete facing. The additional excavation necessary to place the lagging whether through soil or CLSM shall be included in this work.
- (k) Geocomposite Wall Drain. When required by the plans, the geocomposite wall drain shall be installed and paid for according to Section 591 except that, in the case where a concrete facing is specified on the plans, the wall drain shall be installed on the concrete facing side of the timber lagging with the pervious (fabric) side of the drain installed to face the timber. When a concrete facing is not specified on the plans, the pervious (fabric) side of the drain shall be installed to face the soil. In this case, the drain shall be installed in stages as the timber lagging is installed. The wall drain shall be placed in sections and spliced, or kept on a continuous roll, so that as each timber is placed, the drain can be properly located as the excavation proceeds.

Method of Measurement. The furnishing of soldier piles will be measured for payment in feet (meters) along the centerline of the soldier pile for each of the types specified. The length shall be determined as the difference between the plan top of soldier pile and the final as built shaft excavation bottom.

The drilling and setting of soldier piles in soil and rock, will be measured for payment and the volumes computed in cubic feet (cubic meters) for the shaft excavation required to set the soldier piles according to the plans and specifications, and accepted by the Engineer. These volumes shall be the theoretical volumes computed using the diameter(s) of the shaft(s) shown in the plans and the depth of the excavation in soil and/or rock as appropriate. The depth in soil will be defined as the difference in elevation between the ground surface at the time of concrete placement and the bottom of the shaft excavation or the top of rock (when present), whichever is encountered first. The depth in rock will be defined as the difference in elevation between the measured top of rock and the bottom of the shaft excavation.

Drilling and placing CLSM secant lagging shall be measured for payment in cubic feet (cubic meters) of the shaft excavation required to install the secant lagging as shown in the plans. This volume shall be the theoretical volume computed using the diameter(s) shown on the plans and the difference in elevation between the as built shaft excavation bottom and the ground surface at the time of the CLSM placement.

Timber lagging shall be measured for payment in square feet (square meters) of timber lagging installed to the limits as shown on the plans. The quantity shall be calculated using the minimum lagging length required on the plans multiplied by the as installed height of timbers, for each bay of timber lagging spanning between the soldier piles.

Basis of Payment. The furnishing of soldier piles will be paid for at the contract unit price per foot (meter) for FURNISHING SOLDIER PILES, of the type specified, for the total number of feet (meters) furnished to the job site. The cost of any field splices required due to changes in top of rock elevation shall be paid for according to Article 109.04.

The drilling and setting of soldier piles will be paid for at the contract unit price per cubic foot (cubic meter) for DRILLING AND SETTING SOLDIER PILES (IN SOIL) and DRILLING AND SETTING SOLDIER PILES (IN ROCK). The required shaft excavation, soldier pile encasement concrete and any CLSM backfill required around each soldier pile will not be paid for separately but shall be included in this item.

The timber lagging will be paid for at the contract unit price per square foot (square meter) for UNTREATED TIMBER LAGGING, or TREATED TIMBER LAGGING as detailed on the plans.

The secant lagging will be paid for at the contract unit price per cubic foot (cubic meter) for SECANT LAGGING. The required shaft excavation and CLSM backfill required to fill that excavation shall be included in this item.

Obstruction mitigation shall be paid for according to Article 109.04.

No additional compensation, other than noted above, will be allowed for removing and disposing of excavated materials, for furnishing and placing concrete, CLSM, bracing, lining, temporary casings placed and removed or left in place, or for any excavation made or concrete placed outside of the plan diameter(s) of the shaft(s) specified.

## **DRIVEN SOLDIER PILE RETAINING WALL**

Effective: November 13, 2002

Revised: October 9, 2009

Description. This work shall consist of providing all labor, materials, and equipment necessary to fabricate, furnish, and drive the soldier piles into position to the specified elevations. Also included in this work is the furnishing and installation of the timber lagging. All work shall be according to the details shown on the plans and as directed by the Engineer.

The remainder of the retaining wall components, if any, as shown on the plans, such as concrete facing, shear studs, reinforcement bars, tie backs, hand rails, and various drainage items etc., are not included in this Special Provision but are paid for as specified elsewhere in this Contract.

Materials. The materials used for the soldier piles and lagging shall satisfy the following requirements:

- (a) The structural steel components for the soldier piles shall conform to the requirements of AASHTO M270, Grade 36 (AASHTO M270M, Grade 250), unless otherwise designated on the plans.
- (b) The Controlled Low-Strength Material (CLSM), used for backfilling shaft excavations to the existing ground surface, shall be according to the Article 1019.
- (c) Timber Lagging. The minimum tabulated unit stress in bending ( $F_b$ ), used for the design of the timber lagging, shall be 1000 psi (6.9 MPa) unless otherwise specified on the plans. When treated timber lagging is specified on the plans, the method of treatment shall be according to Article 1007.12. All timber shall meet the inspection requirements of Article 1007.01.

Construction Requirements. The Contractor shall satisfy the following requirements:

- (a) Soldier Pile Fabrication and Placement. The soldier pile is defined as the structural steel section(s) shown on the plans as well as any connecting plates used to join multiple sections. The types of soldier piles shall be defined as HP, W Sections, or Built-Up Sections. Cleaning and painting of all steel components, when specified, shall be as shown on the plans and accomplished according to the special provision for "Cleaning and Painting New Metal Structures". This work will not be paid for separately, but shall be considered included in the cost of Furnishing Soldier Piles of the type specified.

The soldier pile shall be shop fabricated such that no field welding is required. Piles shall be supplied and driven without splices unless approved by the Engineer. Soldier piles furnished with extra length shall be driven to the required tip elevation and cut to satisfy the top of pile elevation or driven past the required tip elevation to avoid cutting. Standard vibratory or impact hammers may be used to install the soldier piles. The Contractor shall use suitable bracing or pile leads to maintain the position of the soldier pile while driving

such that the final location will satisfy the Construction Tolerances portion of this Special Provision. At the contractors option and at no extra cost to the department, the piles may be installed by setting them in predrilled excavations and backfilling with CLSM according to Section 593. The drilling methods used to maintain the shaft excavation side wall stability during the various phases of shaft excavation and concrete placement, must be appropriate for the site conditions encountered.

- (b) Obstructions. Obstructions shall be defined as any object (such as but not limited to, boulders, logs, old foundations, etc.) that cannot be penetrated with normal pile driving procedures, but requires special augers, tooling, core barrels or rock augers to remove the obstruction. When obstructions are encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to core, break up, push aside, or remove the obstruction.
- (c) Construction Tolerances. The soldier piles shall be driven to satisfy the following tolerances:
  - (1) The center of the soldier pile shall be within 1 1/2 in. (38 mm) of plan station and 1/2 in. (13 mm) offset at the top of the pile.
  - (2) The out of vertical plumbness of the soldier pile shall not exceed 0.83 percent.
  - (3) The top of the soldier pile shall be within  $\pm 1$  in. ( $\pm 25$  mm) of the plan elevation.
- (d) Timber Lagging. Timber lagging, when required by the plans, installed below the original ground surface, shall be placed from the top down as the excavation proceeds. Lagging shown above grade shall be installed and backfilled against prior to installing any permanent facing to minimize post construction deflections. Over-excavation required to place the timber lagging behind the flanges of the soldier piles shall be the minimum necessary to install the lagging. Any voids produced behind the lagging shall be filled with porous granular embankment at the Contractors expense. When the plans require the Contractor to design the timber lagging, the design shall be based on established practices published in FHWA or AASHTO documents considering lateral earth pressure, construction loading, traffic surcharges and the lagging span length(s). The nominal thickness of the lagging selected shall not be less than 3 in. (75 mm) and shall satisfy the minimum tabulated unit stress in bending ( $F_b$ ) stated elsewhere in this Special Provision. The Contractor shall be responsible for the successful performance of the lagging system until the concrete facing is installed. When the nominal timber lagging thickness(s) and allowable stress are specified on the plans, the timber shall be rough cut or surfaced and according to Article 1007.03.
- (e) Structure Excavation. When structure excavation is necessary to place a concrete facing, it shall be made and paid for according to Section 502 except that the horizontal limits for structure excavation shall be from the face of the soldier pile to a vertical plane 2 ft. (600 mm) from the finished face of the wall. The depth shall be from the top of the original ground surface to the bottom of the concrete facing. The additional excavation necessary to place the lagging whether through soil or CLSM shall be included in this work.

- (f) Geocomposite Wall Drain. When required by the plans, the geocomposite wall drain shall be installed and paid for according to Section 591 except that, in the case where a concrete facing is specified on the plans, the wall drain shall be installed on the concrete facing side of the timber lagging with the pervious (fabric) side of the drain installed to face the timber. When a concrete facing is not specified on the plans, the pervious (fabric) side of the drain shall be installed to face the soil. In this case, the drain shall be installed in stages as the timber lagging is installed. The wall drain shall be placed in sections and spliced, or kept on a continuous roll, so that as each timber is placed, the drain can be properly located as the excavation proceeds.

Method of Measurement. The furnishing and driving of soldier piles will be measured for payment in feet (meters) along the centerline of the soldier pile for each of the types specified. The length shall be determined as the difference between the plan top of soldier pile and the required tip elevation.

Timber lagging shall be measured for payment in square feet (square meters) of timber lagging installed to the limits as shown on the plans. The quantity shall be calculated using the minimum lagging length required on the plans multiplied by the as installed height of timbers, for each bay of timber lagging spanning between the soldier piles.

Basis of Payment. The furnishing of soldier piles will be paid for at the contract unit price per foot (meter) for FURNISHING SOLDIER PILES, of the type specified, for the total number of feet (meters) required by the plan design.

The driving of soldier piles will be paid for at the contract unit price per foot (meter) for DRIVING SOLDIER PILES. Any bracing, cutoffs, or splicing required will not be paid for separately but shall be included in this item.

The timber lagging will be paid for at the contract unit price per square foot (square meter) for UNTREATED TIMBER LAGGING, or TREATED TIMBER LAGGING as detailed on the plans.

Obstruction mitigation shall be paid for according to Article 109.04.

## **TEMPORARY SOIL RETENTION SYSTEM**

Effective: December 30, 2002

Revised : May 11, 2009

Description. This work shall consist of designing, furnishing, installing, adjusting for stage construction when required and subsequent removal of the temporary soil retention system according to the dimensions and details shown on the plans and in the approved design submittal.

General. The temporary soil retention system shall be designed by the Contractor as a minimum, to retain the exposed surface area specified in the plans or as directed by the Engineer.

The design calculations and details for the temporary soil retention system proposed by the Contractor shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Construction. The Contractor shall verify locations of all underground utilities before installing any of the soil retention system components or commencing any excavation. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The soil retention system shall be installed according to the Contractor's approved design, or as directed by the Engineer, prior to commencing any related excavation. If unable to install the temporary soil retention system as specified in the approved design, the Contractor shall have the adequacy of the design re-evaluated. Any reevaluation shall be submitted to the Engineer for approval prior to commencing the excavation adjacent to the area in question. The Contractor shall not excavate below the maximum excavation line shown in the approved design without the prior permission of the Engineer. The temporary soil retention system shall remain in place until the Engineer determines it is no longer required.

The temporary soil retention system shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the temporary soil retention system leaving the remainder in place. The remaining temporary soil retention system shall be removed to a depth which will not interfere with the new construction, and as a minimum, to a depth of 12 in. (300 mm) below the finished grade, or as directed by the Engineer. Removed system components shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where its presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven or installed through or around, with normal driving or installation procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

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Method of Measurement. The temporary soil retention system furnished and installed according to the Contractor's approved design or as directed by the Engineer will be measured for payment in place, in square feet (square meters). The area measured shall be the vertical exposed surface area envelope of the excavation supported by temporary soil retention system. Portions of the temporary soil retention system left in place for reuse in later stages of construction shall only be measured for payment once.

Any temporary soil retention system installed beyond those dimensions shown on the contract plans or the approved contractor's design without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's own expense.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for TEMPORARY SOIL RETENTION SYSTEM.

Payment for any excavation, related solely to the installation and removal of the temporary soil retention system and/or its components, shall not be paid for separately but shall be included in the unit bid price for TEMPORARY SOIL RETENTION SYSTEM. Other excavation, performed in conjunction with this work, will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

## **PIPE UNDERDRAINS FOR STRUCTURES**

Effective: May 17, 2000

Revised: January 22, 2010

Description. This work shall consist of furnishing and installing a pipe underdrain system as shown on the plans, as specified herein, and as directed by the Engineer.

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

The perforated pipe underdrain shall be according to Article 601.02 of the Standard Specifications. Outlet pipes or pipes connecting to a separate storm sewer system shall not be perforated.

The drainage aggregate shall be a combination of one or more of the following gradations, FA1, FA2, CA5, CA7, CA8, CA11, or CA13 thru 16, according to Sections 1003 and 1004 of the Standard Specifications.

The fabric surrounding the drainage aggregate shall be Geotechnical Fabric for French Drains according to Article 1080.05 of the Standard Specifications.

Construction Requirements. All work shall be according to the applicable requirements of Section 601 of the Standard Specifications except as modified below.

The pipe underdrains shall consist of a perforated pipe drain situated at the bottom of an area of drainage aggregate wrapped completely in geotechnical fabric and shall be installed to the lines and gradients as shown on the plans.

Method of Measurement. Pipe Underdrains for Structures shall be measured for payment in feet (meters), in place. Measurement shall be along the centerline of the pipe underdrains. All connectors, outlet pipes, elbows, and all other miscellaneous items shall be included in the measurement. Concrete headwalls shall be included in the cost of Pipe Underdrains for Structures, but shall not be included in the measurement for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for PIPE UNDERDRAINS FOR STRUCTURES of the diameter specified. Furnishing and installation of the drainage aggregate, geotechnical fabric, forming holes in structural elements and any excavation required, will not be paid for separately, but shall be included in the cost of the pipe underdrains for structures.

**POROUS GRANULAR EMBANKMENT, SPECIAL**

Effective: September 28, 2005

Revised: November 14, 2008

Description. This work shall consist of furnishing and placing porous granular embankment special material as detailed on the plans, according to Section 207 except as modified herein.

Materials. The gradation of the porous granular material may be any of the following CA 8 thru CA 18, FA 1 thru FA 4, FA 7 thru FA 9, and FA 20 according to Articles 1003 and 1004.

Construction. The porous granular embankment special shall be installed according to Section 207, except that it shall be uncompacted.

Basis of Payment. This work will be paid for at the contract unit price per Cubic Yard (Cubic Meter) for POROUS GRANULAR EMBANKMENT, SPECIAL.

**MECHANICAL SPLICERS**

Effective: September 21, 1995

Revised: May 11, 2009

**Description.** This work shall consist of furnishing and installing mechanical splices according to the plans and this special provision.

**Materials and Procedures.** The mechanical connection may be made by means of an approved mechanical splicer. Splicer bar type systems lapped with the primary reinforcement will not be allowed. The mechanical splicer shall develop in tension at least 125 percent of the specified yield strength of the bar.

When both reinforcement bars being spliced are epoxy coated the mechanical splicer shall also be epoxy coated according to AASHTO M284.

Contact the Bureau of Materials for a current list of approved mechanical reinforcing bar splicers/coupler systems.

**Installation.** The Contractor shall supply the manufacturer's written installation instructions to the Engineer prior to installing the mechanical splices.

**Testing.** A minimum of two tension tests will be made with the method of splicing selected on each size bar to be spliced. The Contractor shall furnish certified copies of the test reports from an independent testing laboratory.

**Basis of Payment.** This work will be paid for at the contract unit price each for MECHANICAL SPLICERS.

## PILING

Effective: May 11, 2009

Revised: January 22, 2010

Revise Article 512.04(a) of the Standard Specifications to read:

“(a) Splicing. Splicing of metal shell piles shall be as follows.

- (1) Planned Splices. Planned field or shop splices may be used when allowed per Article 512.10 or when the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3 m). The location of planned splices shall be approved by the Engineer and located to minimize the chance they will occur within the 10 ft (3 m) below the base of the footing, abutment, or pier.
- (2) Unplanned Splices. Unplanned field splices shall be used as required to furnish lengths beyond those specified in Article 512.16. The length of additional segments shall be specified by the Engineer.”

Revise Article 512.05(a) of the Standard Specifications to read:

“(a) Splicing. Splicing of steel piles shall be as follows.

- (1) Planned Splices. Planned field or shop splices may be used when allowed per Article 512.10 or when the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3 m). The location of planned splices shall be approved by the Engineer and located to minimize the chance they will occur within the 10 ft (3 m) below the base of the footing, abutment, or pier.
- (2) Unplanned Splices. Unplanned field splices shall be used as required to furnish lengths beyond those specified in Article 512.16. The length of additional segments shall be specified by the Engineer.”

Revise the first three paragraphs of Article 512.10 of the Standard Specifications to read:

“**512.10 Driving Equipment.** The equipment for driving piles shall be adequate for driving piles at least 10 ft (3 m) longer than the longest estimated pile length specified in the contract plans without splicing, unless the estimated pile length exceeds 55 ft (17 m) or prevented by vertical clearance restrictions. The use of shorter length equipment or the use of preplanned splices (necessitated by estimated pile lengths exceeding 55 ft (17 m) or vertical clearance restrictions) shall meet the approval of the Engineer. The equipment for driving piles shall be according to the following.

- (a) Hammers. Piles shall be driven with an impact hammer such as a drop, steam/air, hydraulic, or diesel. The driving system selected by the Contractor shall not result in damage to the pile. The impact hammer shall be capable of being operated at an energy which will maintain a pile penetration rate between 1 and 10 blows per 1 in. (25 mm) when the nominal driven bearing of the pile approaches the nominal required bearing.

For hammer selection purposes, the minimum and maximum hammer energy necessary to achieve these penetrations may be estimated as follows.

$$E \geq \frac{32.90 R_N}{F_{eff}} \text{ (English)}$$

$$E \leq \frac{65.80 R_N}{F_{eff}} \text{ (English)}$$

$$E \geq \frac{10.00 R_N}{F_{eff}} \text{ (metric)}$$

$$E \leq \frac{20.00 R_N}{F_{eff}} \text{ (metric)}$$

Where:

- $R_N$  = Nominal required bearing in kips (kN)
- $E$  = Energy developed by the hammer per blow in ft lb (J)
- $F_{eff}$  = Hammer efficiency factor according to Article 512.14."

Add the following sentence to the beginning of the fourth paragraph of Article 512.11 of the Standard Specifications:

"Except as required to satisfy the minimum tip elevations required in 512.11(b) above, piles are not required to be driven more than one additional foot (300 mm) after the nominal driven bearing equals or exceeds the nominal required bearing; more than three additional inches (75 mm) after the nominal driven bearing exceeds 110 percent of the nominal required bearing; or more than one additional inch (25 mm) after the nominal driven bearing exceeds 150 percent of the nominal required bearing."

Revise the first paragraph of Article 512.14 of the Standard Specifications to read:

**"512.14 Determination of Nominal Driven Bearing.** The nominal driven bearing of each pile shall be determined by the WSDOT formula as follows.

$$R_{NDB} = \frac{6.6 F_{eff} E \ln(10N_b)}{1000} \text{ (English)}$$

$$R_{NDB} = \frac{21.7 F_{eff} E \ln(10N_b)}{1000} \text{ (metric)}$$

Where:

- $R_{NDB}$  = Nominal driven bearing of the pile in kips (kN)
- $N_b$  = Number of hammer blows per inch (25 mm) of pile penetration
- $E$  = Energy developed by the hammer per blow in ft lb (J)
- $F_{eff}$  = Hammer efficiency factor taken as:
  - 0.55 for air/steam hammers
  - 0.47 for open-ended diesel hammers and steel piles or metal shell piles

0.37 for open-ended diesel hammers and concrete or timber piles  
0.35 for closed-ended diesel hammers  
0.28 for drop hammers”

Add the following to Article 512.18 of the Standard Specifications.

“(h) When the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3m), additional field splices (for metal shell and steel piles) required to provide the lengths specified in Article 512.16 will be paid for according to Article 109.04.”

## **BRACED EXCAVATION**

Effective: August 9, 1995

Revised: January 18, 2011

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

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

This work shall not proceed without the approval and authorization of the Engineer. However, in any event, the Contractor shall be fully responsible for the safety, stability and adequacy of the bracing system and shall be solely responsible and liable for all damages resulting from his construction operations or from failure or inadequacy of the bracing system.

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

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

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

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

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:

Village of Bridgeview

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The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

## **AMERICAN RECOVERY AND REINVESTMENT ACT PROVISIONS (BDE)**

Effective: April 1, 2009

### Required Contract Provision to Implement ARRA Section 902:

Section 902 of the American Recovery and Reinvestment Act (ARRA) of 2009 requires that each contract awarded using ARRA funds allow the U.S. Comptroller General and his representatives with the authority to:

- “(1) to examine any records of the Contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and
- (2) to interview any officer or employee of the Contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.”

Accordingly, the Comptroller General and his representatives shall have the authority and rights as provided under Section 902 of the ARRA with respect to this contract, which is funded with funds made available under the ARRA. Section 902 further states that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

### Notification of the Authority of the Inspector General:

Section 1515(a) of the ARRA provides authority for any representatives of the Inspector General to examine any records or interview any employee or officers working on this contract. The Contractor is advised that representatives of the inspector general have the authority to examine any record and interview any employee or officer of the Contractor, its subcontractors or other firms working on this contract. Section 1515(b) further provides that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of an inspector general.

80243

## **AMERICAN RECOVERY AND REINVESTMENT ACT SIGNING (BDE)**

Effective: April 1, 2009

Revised: April 15, 2009

Description. This work shall consist of furnishing, fabricating and installing sign panels, complete with sign faces, legend, and supplemental panels according to Section 720 of the Standard Specifications and as specified herein.

Materials. The "Putting America to Work" sign shall be fabricated using Type AA or AZ fluorescent orange sheeting for the background material with black vinyl or black opaque ink legend, symbol and borders. The "American Recovery and Reinvestment Act" sign shall be fabricated using Type AP green sheeting for the background with Type AP white sheeting for the legend and border. A green translucent overlay film may also be used over white Type AP sheeting to fabricate the "American Recovery and Reinvestment Act" sign.

Sign Layout. See following attachment. The "Putting America to Work" sign shall be 84 in. x 18 in. The "American Recovery and Reinvestment Act" sign shall be 84 in x 60 in.

General. The signs shall be erected to applicable portions of Article 701.14 of the Standard Specifications. These signs shall be erected midway between the first and second warning signs as required by the traffic control plan and standards utilized for this project. If the second warning sign is defining a moving or intermittent operation, the sign may be maintained at a distance of 500 ft (150 m) beyond the first post mounted ROAD CONSTRUCTION AHEAD sign. The signs shall remain in place for the duration of the project. Upon completion of the project, the signs and posts shall be removed and shall remain the property of the Contractor.

Basis of Payment. This work will not be paid for separately but shall be included in the cost of Traffic Control items as shown on the plans.

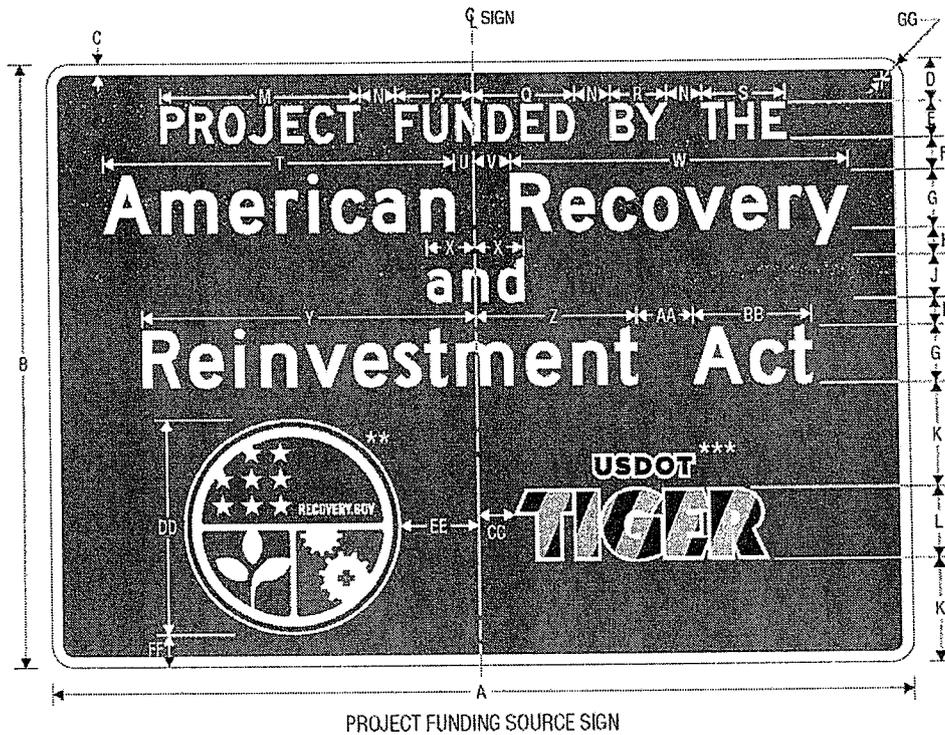
80236

**PROJECT FUNDING SOURCE SIGN ASSEMBLY  
AMERICAN RECOVERY AND REINVESTMENT ACT  
SIGN LAYOUT DETAILS**



PROJECT FUNDING SOURCE  
SIGN ASSEMBLY

## PROJECT FUNDING SOURCE SIGN ASSEMBLY AMERICAN RECOVERY AND REINVESTMENT ACT SIGN LAYOUT DETAILS



PROJECT FUNDING SOURCE SIGN

NOTE: SIGN SHALL NOT BE INSTALLED WITHOUT PROJECT FUNDING SOURCE PLAQUE

Dimensions in inches

A	B	C	D	L	F	G	H	J	K	L	M	N	P
120	84	1.5	6	5 D	4.5	8 D*	3.75	50*(45LC)	14.5	10	27.917	5	10.831
84	60	1	5	4 C	3.5	6 C*	3	40*(3LC)	9.25	7	19.047	4	7.362

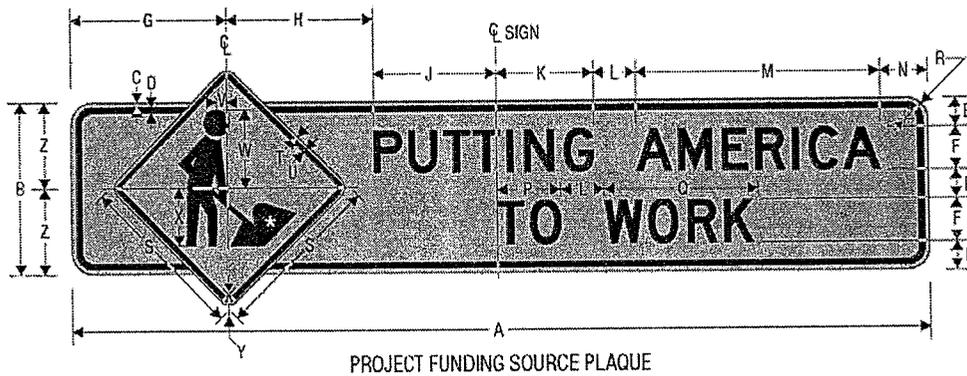
Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD
14.087	8.106	11.556	49.42	2.742	5.258	46.904	6.812	46.76	22.472	8	16.288	5	30
9.484	5.162	7.763	31.722	2.415	3.585	30.552	4.542	30.911	14.737	6	10.175	4	21

EE	FF	GG
11	4.5	3
7.5	2.25	2.25

- \* Increase character spacing 50%
- \*\* See Pictograph
- \*\*\* See Pictograph

COLORS: LEGEND, BORDER — WHITE (RETROREFLECTIVE)  
BACKGROUND — GREEN (RETROREFLECTIVE)

## PROJECT FUNDING SOURCE SIGN ASSEMBLY AMERICAN RECOVERY AND REINVESTMENT ACT SIGN LAYOUT DETAILS



NOTE: PLAQUE SHALL NOT BE INSTALLED  
WITHOUT SIGN

\* See *Standard Highway Signs*  
Page 6-59 for symbol design.

Dimensions in inches

A	B	C	D	L	I	G	H	J	K	L	M	N	P
120	24	0.625	0.875	4	6.0	22.349	20.370	17.281	13.28	6	34.22	6.5	8.765
84	18	0.375	0.625	3.5	4.0	16.607	15.686	9.707	10.867	4	22.813	5	5.843

Q	R	S	T	U	V	W	X	Y	Z
21.013	3	24	0.375	0.625	1.5	11	8	1.5	12
14.009	2.25	18	0.375	0.625	1	7	6	1.5	9

COLORS: LEGEND, BORDER -- BLACK  
BACKGROUND -- ORANGE (RETROREFLECTIVE)

**PROJECT FUNDING SOURCE SIGN ASSEMBLY  
AMERICAN RECOVERY AND REINVESTMENT ACT  
SIGN LAYOUT DETAILS**



RECOVERY  
Vector-Based, Vinyl-Ready Pictograph

- |                          |                           |
|--------------------------|---------------------------|
| COLORS: LEGEND, OUTLINE  | - WHITE (RETROREFLECTIVE) |
| BORDER                   | - BLUE (RETROREFLECTIVE)  |
| BACKGROUND (UPPER)       | - BLUE (RETROREFLECTIVE)  |
| BACKGROUND (LOWER RIGHT) | - RED (RETROREFLECTIVE)   |
| BACKGROUND (LOWER LEFT)  | - GREEN (RETROREFLECTIVE) |

**PROJECT FUNDING SOURCE SIGN ASSEMBLY  
AMERICAN RECOVERY AND REINVESTMENT ACT  
SIGN LAYOUT DETAILS**



USDOT TIGER  
Vector-Based, Vinyl-Ready Pictograph

COLORS: OUTLINE	—	WHITE (RETROREFLECTIVE)
USDOT LEGEND	—	BLACK
TIGER DIAGONALS	—	BLACK, ORANGE (RETROREFLECTIVE)

## 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  $\leq 0.16$  percent when performed on the aggregate in the concrete mixture with the highest ASTM C 1260 test result. The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. For latex concrete, the ASTM C 1567 test shall be performed without the latex. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ), a new ASTM C 1567 test will not be required.

Testing. If an individual aggregate has an ASTM C 1260 expansion value  $> 0.16$  percent, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The ASTM C 1293 test shall be performed with Type I or II cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container or wick of absorbent material, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 or 1567 test result. The Engineer will not accept the result if the precision and bias for the test methods are not met.

The laboratory performing the ASTM C 1567 test shall either be accredited by the AASHTO Materials Reference Laboratory (AMRL) for ASTM C 227 under Portland Cement Concrete or Aggregate; or shall be inspected for Hydraulic Cement - Physical Tests by the Cement and Concrete Reference Laboratory (CCRL) and shall be approved by the Department. The laboratory performing the ASTM C 1293 test shall be inspected for Portland Cement Concrete by CCRL and shall be approved by the Department.

**ALKALI-SILICA REACTION FOR PRECAST AND PRECAST PRESTRESSED CONCRETE (BDE)**

Effective: January 1, 2009

Description. This special provision is intended to reduce the risk of a deleterious alkali-silica reaction in precast and precast prestressed concrete exposed to humid or wet conditions. The special provision is not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate or sodium formate. The special provision shall not apply to the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy. The special provision shall also not apply to cast-in-place concrete.

Aggregate Expansion Values. Each coarse and fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department's Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will be assigned to limestone or dolomite coarse aggregates and 0.03 percent to limestone or dolomite fine aggregates (manufactured stone sand); however the Department reserves the right to perform the ASTM C 1260 test.

Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

AGGREGATE GROUPS			
Coarse Aggregate or 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  $\leq 0.16$  percent when performed on the aggregate in

the concrete mixture with the highest ASTM C 1260 test result. The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ), a new ASTM C 1567 test will not be required.

Testing. If an individual aggregate has an ASTM C 1260 expansion value  $> 0.16$  percent, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The ASTM C 1293 test shall be performed with Type I or II cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container or wick of absorbent material, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 or 1567 test result. The Engineer will not accept the result if the precision and bias for the test methods are not met.

The laboratory performing the ASTM C 1567 test shall either be accredited by the AASHTO Materials Reference Laboratory (AMRL) for ASTM C 227 under Portland Cement or Aggregate; or shall be inspected for Hydraulic Cement - Physical Tests by the Cement and Concrete Reference Laboratory (CCRL) and shall be approved by the Department. The laboratory performing the ASTM C 1293 test shall be inspected for Portland Cement Concrete by CCRL and shall be approved by the Department.

80213

**APPROVAL OF PROPOSED BORROW AREAS, USE AREAS, AND/OR WASTE AREAS  
(BDE)**

Effective: November 1, 2008

Revised: November 1, 2010

Replace the first paragraph of Article 107.22 of the Standard Specifications with the following:

“All proposed borrow areas, including commercial borrow areas; use areas, including, but not limited to temporary access roads, detours, runarounds, plant sites, and staging and storage areas; and/or waste areas are to be designated by the Contractor to the Engineer and approved prior to their use. Such areas outside the State of Illinois shall be evaluated, at no additional cost to the Department, according to the requirements of the state in which the area lies; and approval by the authority within that state having jurisdiction for such areas shall be forwarded to the Engineer. Such areas within Illinois shall be evaluated as described herein.

A location map delineating the proposed borrow area, use area, and/or waste area shall be submitted to the Engineer for approval along with an agreement from the property owner granting the Department permission to enter the property and conduct cultural and biological resource reconnaissance surveys of the site for archaeological resources, threatened or endangered species or their designated essential habitat, wetlands, prairies, and savannahs. The type of location map submitted shall be a topographic map, a plat map, or a 7.5 minute quadrangle map. Submittals shall include the intended use of the site and provide sufficient detail for the Engineer to determine the extent of impacts to the site. The Engineer will initiate cultural and biological resource reconnaissance surveys of the site, as necessary, at no cost to the Contractor. The Engineer will advise the Contractor of the expected time required to complete all surveys. If the proposed area is within 150 ft (45 m) of the highway right-of-way, a topographic map of the proposed site will be required as specified in Article 204.02.”

80207

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

Effective: September 1, 1990

Revised: April 1, 2010

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

<u>Bldg. No.</u>	<u>Parcel No.</u>	<u>Location</u>	<u>Description</u>
1	0009TEA	Golden Grain (PepsiCo Plant)	Existing Guardhouse

NOTE: This Work will be paid for as part of the item GUARD HOUSE REMOVAL AND REPLACEMENT. No separate payment will be made and the Work under this item will not be measured for payment.

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

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

PROPERTY ACQUIRED FOR  
HIGHWAY CONSTRUCTION  
TO BE DEMOLISHED BY THE  
VILLAGE OF BRIDGEVIEW  
VANDALS WILL BE PROSECUTED

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

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein..

The lump sum unit price(s) for this work shall represent the cost of demolition. Any salvage value shall be reflected in the contract unit price for this item.

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

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

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

Submittals:

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

5053I

## 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

## CERTIFICATION OF METAL FABRICATOR (BDE)

Effective: July 1, 2010

Revise Article 106.08 of the Standard Specifications to read:

**"106.08 Certification of Metal Fabricator.** All fabricators performing work on metal components of structures shall be certified under the appropriate category of the AISC Quality Certification Program as follows.

- (a) Fabricators of the main load carrying steel components of welded plate girder, box girder, truss, and arch structures shall be certified under Category MBr (Major Steel Bridges).
- (b) Fabricators of the main load carrying steel components of rolled beam structures, either simple span or continuous, and overhead sign structures shall be certified under Category SBr (Simple Steel Bridges).

Fabricators of steel or other non-ferrous metal components of structures not certified under (a) or (b) above shall be certified under the program for Bridge and Highway Metal Component Manufacturers."

80260

## CONCRETE ADMIXTURES (BDE)

Effective: January 1, 2003

Revised: April 1, 2009

Replace the first paragraph of Article 1020.05(b) of the Standard Specifications to read:

“(b) Admixtures. The use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted when approved by the Engineer. Admixture dosages shall result in the mixture meeting the specified plastic and hardened properties. The Department will maintain an Approved List of Corrosion Inhibitors. Corrosion inhibitor dosage rates shall be according to Article 1020.05(b)(12). The Department will also maintain an Approved List of Concrete Admixtures, and an admixture technical representative shall be consulted when determining an admixture dosage from this list. The dosage shall be within the range indicated on the approved list unless the influence by other admixtures, jobsite conditions (such as a very short haul time), or other circumstances warrant a dosage outside the range. The Engineer shall be notified when a dosage is proposed outside the range. To determine an admixture dosage, air temperature, concrete temperature, cement source and quantity, finely divided mineral sources(s) and quantity, influence of other admixtures, haul time, placement conditions, and other factors as appropriate shall be considered. The Engineer may request the Contractor to have a batch of concrete mixed in the lab or field to verify the admixture dosage is correct. An admixture dosage or combination of admixture dosages shall not delay the initial set of concrete by more than one hour. When a retarding admixture is required or appropriate for a bridge deck or bridge deck overlay pour, the initial set time shall be delayed until the deflections due to the concrete dead load are no longer a concern for inducing cracks in the completed work. However, a retarding admixture shall not be used to further extend the pour time and justify the alteration of a bridge deck pour sequence.

When determining water in admixtures for water/cement ratio, the Contractor shall calculate 70 percent of the admixture dosage as water, except a value of 50 percent shall be used for a latex admixture used in bridge deck latex concrete overlays.”

Revise Section 1021 of the Standard Specifications to read:

### “SECTION 1021. CONCRETE ADMIXTURES

**1021.01 General.** Admixtures shall be furnished in liquid form ready for use. The admixtures shall be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer and trade name of the material. Containers shall be readily identifiable as to manufacturer and trade name of the material they contain.

Corrosion inhibitors will be maintained on the Department's Approved List of Corrosion Inhibitors. All other concrete admixture products will be maintained on the Department's

Approved List of Concrete Admixtures. For the admixture submittal, a report prepared by an independent laboratory accredited by the AASHTO Materials Reference Laboratory (AMRL) for Portland Cement Concrete shall be provided. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications. However, for corrosion inhibitors the ASTM G 109 test information specified in ASTM C 1582 is not required to be from 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 JOINT SEALER (BDE)**

Effective: January 1, 2009

Add the following to the end of the second paragraph of Article 503.19 of the Standard Specifications:

"After the surface is clean and before applying protective coat, joints being sealed according to Section 588 shall be covered with a masking tape."

Revise Section 588 of the Standard Specifications to read:

**"SECTION 588. CONCRETE JOINT SEALER**

**588.01 Description.** This work shall consist of sealing the transverse joint in the bridge roadway slab.

**588.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Hot-Poured Joint Sealer .....	1050.02
(b) Preformed Flexible Foam Expansion Joint Filler.....	1051.09

**CONSTRUCTION REQUIREMENTS**

**588.03 General.** The faces of all joints to be sealed shall be free of foreign matter, curing compound, oils, grease, dirt, free water, and laitance. Concrete joints to be sealed shall be free of cracked or spalled areas. Any cracked areas shall be chipped back to sound concrete before placing joint sealer.

The hot-poured joint sealer shall be placed when the air temperature in the shade is 40 °F (5 °C) or higher, unless approved by the Engineer.

A continuous length of expansion joint filler of the size designated on the plans, shall be placed in the joint opening at the depth below the finished surface of the joint shown on the plans. Hot-poured joint sealer shall be stirred during heating to prevent localized overheating. The sealing material shall be applied to each joint opening according to the details shown on the plans or as directed by the Engineer, without spilling on the exposed concrete surfaces.

All bridge joints shall be filled to 1/4 in. (6 mm) below the finished surface of the joint. This is to be interpreted to mean that the surface of the sealant shall be level and the point of its contact with the sidewalls of the joint shall be 1/4 in. (6 mm) below the finished surface of the joint.

Any sealing compound that is not bonded to the joint wall or face 24 hours after placing shall be removed and the joint shall be cleaned and resealed.

**588.04 Basis of Payment.** This work will not be paid for as a separate item, but shall be considered as included in the unit price bid for the major item of construction involved."

80215

## CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term "equipment" refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment's respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 <sup>1/</sup>	600-749	2002
	750 and up	2006
June 1, 2011 <sup>2/</sup>	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 <sup>2/</sup>	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/otag/retrofit/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verde/verdev.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

### **Diesel Retrofit Deficiency Deduction**

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

## 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:

$$Q_L = \frac{(\bar{x} - LSL)}{s}$$

Determine PWL for the lot using the  $Q_L$  and the following table. For  $Q_L$  values less than zero the value shown in the table must be subtracted from 100 to obtain PWL.

- (8) Pay Factors. The pay factor (PF) for each lot will be determined, to the nearest two decimal places, using:

$$PF \text{ (in percent)} = 55 + 0.5 (PWL)$$

If  $\bar{x}$  for a lot is less than the plan thickness, the maximum PF for that lot shall be 100 percent.

- (9) Payment. Payment of incentive or disincentive for pay items subject to the PWL method will be calculated using:

$$\text{Payment} = (((TPF/100)-1) \times CUP) \times (TOTPAVT - DEFFPAVT)$$

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 <sub>L</sub> )*	Percent Within Limits (PWL)	Quality Index (Q <sub>L</sub> )*	Percent Within Limits (PWL)	Quality Index (Q <sub>L</sub> )*	Percent Within Limits (PWL)	Quality Index (Q <sub>L</sub> )*	Percent Within Limits (PWL)
0.00	50.00	0.40	65.07	0.80	78.43	1.20	88.76
0.01	50.38	0.41	65.43	0.81	78.72	1.21	88.97
0.02	50.77	0.42	65.79	0.82	79.02	1.22	89.17
0.03	51.15	0.43	66.15	0.83	79.31	1.23	89.38
0.04	51.54	0.44	66.51	0.84	79.61	1.24	89.58
0.05	51.92	0.45	66.87	0.85	79.90	1.25	89.79
0.06	52.30	0.46	67.22	0.86	80.19	1.26	89.99
0.07	52.69	0.47	67.57	0.87	80.47	1.27	90.19
0.08	53.07	0.48	67.93	0.88	80.76	1.28	90.38
0.09	53.46	0.49	68.28	0.89	81.04	1.29	90.58
0.10	53.84	0.50	68.63	0.90	81.33	1.30	90.78
0.11	54.22	0.51	68.98	0.91	81.61	1.31	90.96
0.12	54.60	0.52	69.32	0.92	81.88	1.32	91.15
0.13	54.99	0.53	69.67	0.93	82.16	1.33	91.33
0.14	55.37	0.54	70.01	0.94	82.43	1.34	91.52
0.15	55.75	0.55	70.36	0.95	82.71	1.35	91.70
0.16	56.13	0.56	70.70	0.96	82.97	1.36	91.87
0.17	56.51	0.57	71.04	0.97	83.24	1.37	92.04
0.18	56.89	0.58	71.38	0.98	83.50	1.38	92.22
0.19	57.27	0.59	71.72	0.99	83.77	1.39	92.39
0.20	57.65	0.60	72.06	1.00	84.03	1.40	92.56
0.21	58.03	0.61	72.39	1.01	84.28	1.41	92.72
0.22	58.40	0.62	72.72	1.02	84.53	1.42	92.88
0.23	58.78	0.63	73.06	1.03	84.79	1.43	93.05
0.24	59.15	0.64	73.39	1.04	85.04	1.44	93.21
0.25	59.53	0.65	73.72	1.05	85.29	1.45	93.37
0.26	59.90	0.66	74.04	1.06	85.53	1.46	93.52
0.27	60.28	0.67	74.36	1.07	85.77	1.47	93.67
0.28	60.65	0.68	74.69	1.08	86.02	1.48	93.83
0.29	61.03	0.69	75.01	1.09	86.26	1.49	93.98
0.30	61.40	0.70	75.33	1.10	86.50	1.50	94.13
0.31	61.77	0.71	75.64	1.11	86.73	1.51	94.27
0.32	62.14	0.72	75.96	1.12	86.96	1.52	94.41
0.33	62.51	0.73	76.27	1.13	87.20	1.53	94.54
0.34	62.88	0.74	76.59	1.14	87.43	1.54	94.68
0.35	63.25	0.75	76.90	1.15	87.66	1.55	94.82
0.36	63.61	0.76	77.21	1.16	87.88	1.56	94.95
0.37	63.98	0.77	77.51	1.17	88.10	1.57	95.08
0.38	64.34	0.78	77.82	1.18	88.32	1.58	95.20
0.39	64.71	0.79	78.12	1.19	88.54	1.59	95.33

\*For Q<sub>L</sub> values less than zero, subtract the table value from 100 to obtain PWL

PERCENT WITHIN LIMITS (continued)					
Quality Index (Q <sub>L</sub> )*	Percent Within Limits (PWL)	Quality Index (Q <sub>L</sub> )*	Percent Within Limits (PWL)	Quality Index (Q <sub>L</sub> )*	Percent Within Limits (PWL)
1.60	95.46	2.00	98.83	2.40	99.89
1.61	95.58	2.01	98.88	2.41	99.90
1.62	95.70	2.02	98.92	2.42	99.91
1.63	95.81	2.03	98.97	2.43	99.91
1.64	95.93	2.04	99.01	2.44	99.92
1.65	96.05	2.05	99.06	2.45	99.93
1.66	96.16	2.06	99.10	2.46	99.94
1.67	96.27	2.07	99.14	2.47	99.94
1.68	96.37	2.08	99.18	2.48	99.95
1.69	96.48	2.09	99.22	2.49	99.95
1.70	96.59	2.10	99.26	2.50	99.96
1.71	96.69	2.11	99.29	2.51	99.96
1.72	96.78	2.12	99.32	2.52	99.97
1.73	96.88	2.13	99.36	2.53	99.97
1.74	96.97	2.14	99.39	2.54	99.98
1.75	97.07	2.15	99.42	2.55	99.98
1.76	97.16	2.16	99.45	2.56	99.98
1.77	97.25	2.17	99.48	2.57	99.98
1.78	97.33	2.18	99.50	2.58	99.99
1.79	97.42	2.19	99.53	2.59	99.99
1.80	97.51	2.20	99.56	2.60	99.99
1.81	97.59	2.21	99.58	2.61	99.99
1.82	97.67	2.22	99.61	2.62	99.99
1.83	97.75	2.23	99.63	2.63	100.00
1.84	97.83	2.22	99.66	2.64	100.00
1.85	97.91	2.25	99.68	≥ 2.65	100.00
1.86	97.98	2.26	99.70		
1.87	98.05	2.27	99.72		
1.88	98.11	2.28	99.73		
1.89	98.18	2.29	99.75		
1.90	98.25	2.30	99.77		
1.91	98.31	2.31	99.78		
1.92	98.37	2.32	99.80		
1.93	98.44	2.33	99.81		
1.94	98.50	2.34	99.83		
1.95	98.56	2.35	99.84		
1.96	98.61	2.36	99.85		
1.97	98.67	2.37	99.86		
1.98	98.72	2.38	99.87		
1.99	98.78	2.39	99.88		

\*For Q<sub>L</sub> values less than zero, subtract the table value from 100 to obtain PWL

(b) Minimum Thickness. The minimum thickness method shall be as follows.

- (1) Length of Units. The length of a unit will be a continuous strip of pavement 500 ft (150 m) in length.
- (2) Width of Units. The width of a unit will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.
- (3) Thickness Measurements. Pavement thickness will be based on 2 in. (50 mm) diameter cores.

Cores shall be taken from the pavement by the Contractor at locations selected by the Engineer. When determining the thickness of a unit, one core shall be taken in each unit.

The Contractor and the Engineer shall witness the coring operations, as well as the measuring and recording of the cores. Core measurements will be determined immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples may be disposed of according to Article 202.03.

Upon completion of each core, all water shall be removed from the hole and the hole then filled with a rapid hardening mortar or concrete. The material shall be mixed in a separate container, placed in the hole, consolidated by rodding, and struck-off flush with the adjacent pavement.

- (4) Unit Deficient in Thickness. In considering any portion of the pavement that is deficient, the entire limits of the unit will be used in computing the deficiency or determining the remedial action required.
- (5) Thickness Equals or Exceeds Specified Thickness. When the thickness of a unit equals or exceeds the specified plan thickness, payment will be made at the contract unit price per square yard (square meter) for the specified thickness.
- (6) Thickness Deficient by Ten Percent or Less. When the thickness of a unit is less than the specified plan thickness by ten percent or less, a deficiency deduction will be assessed against payment for the item involved. The deficiency will be a percentage of the contract unit price as given in the following table.

Percent Deficiency (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: January 1, 2010

**FEDERAL OBLIGATION.** The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

**STATE OBLIGATION.** This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

**CONTRACTOR ASSURANCE.** The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor:

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

**OVERALL GOAL SET FOR THE DEPARTMENT.** As a requirement of compliance with 49 CFR part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

**CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR.** This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is based on an assessment of the type of work, the location of the work, and the availability of

DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 16.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set forth in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal; or
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders may consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at [www.dot.il.gov](http://www.dot.il.gov).

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement. The failure of the bidder to comply will render the bid not responsive.

- (a) The bidder shall submit a Disadvantaged Business Utilization Plan on Department forms SBE 2025 and 2026 with the bid.
- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:

- (1) The names and addresses of DBE firms that will participate in the contract;

- (2) A description, including pay item numbers, of the work each DBE will perform;
- (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
- (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
- (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
- (6) If the contract goal is not met, evidence of good faith efforts.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document the good faith efforts of the bidder before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan commits sufficient commercially useful DBE work performance to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not commit sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts, in other words, efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.
  - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder

must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

- (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
- (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.  
  
b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable.
- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
- (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.

- (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision and that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons why good faith efforts have not been found.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217)785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issue of whether an adequate good faith effort was made to meet the contract goal. 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.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
  - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
  - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
  - (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
  - (2) 100 percent goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
  - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements

become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal.

- (a) No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) The Contractor must notify and obtain written approval from the Department's Bureau of Small Business Enterprises prior to replacing a DBE or making any change in the participation of a DBE. Approval for replacement will be granted only if it is demonstrated that the DBE is unable or unwilling to perform. The Contractor must make every good faith effort to find another certified DBE subcontractor to substitute for the original DBE. The good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the original DBE, to the extent needed to meet the contract goal.
- (c) Any deviation from the DBE condition-of-award or contract specifications must be approved, in writing, by the Department. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract.
- (d) In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
  - (1) That the replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
  - (2) That the DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
  - (3) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonably competitive price. If this occurs, the Contractor

shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

- (e) Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A, must be signed and submitted.
- (f) If the commitment of work is in the form of additional tasks assigned to an existing subcontract, then a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (g) All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. The Contractor shall notify the Bureau of Small Business Enterprises of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Bureau of Small Business Enterprises and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau of Small Business Enterprises will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.
- (h) The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than thirty calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Regional Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (j) of this part.
- (i) The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract

until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

- (j) Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department.

80029

## ENGINEER'S FIELD OFFICE TYPE A (BDE)

Effective: April 1, 2007

Revised: January 1, 2011

Revise Article 670.02 of the Standard Specifications to read:

**“670.02 Engineer's Field Office Type A.** Type A field offices shall have a minimum ceiling height of 7 ft (2 m) and a minimum floor space 450 sq ft (42 sq m). The office shall be provided with sufficient heat, natural and artificial light, and air conditioning.

The office shall have an electronic security system that will respond to any breach of exterior doors and windows. Doors and windows shall be equipped with locks. Doors shall also be equipped with dead bolt locks or other secondary locking device.

Windows shall be equipped with exterior screens to allow adequate ventilation. All windows shall be equipped with interior shades, curtains, or blinds. Adequate all-weather parking space shall be available to accommodate a minimum of ten vehicles.

Suitable on-site sanitary facilities meeting Federal, State, and local health department requirements shall be provided, maintained clean and in good working condition, and shall be stocked with lavatory and sanitary supplies at all times.

Sanitary facilities shall include hot and cold potable running water, lavatory and toilet as an integral part of the office where available. Solid waste disposal consisting of two waste baskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service.

In addition, the following furniture and equipment shall be furnished.

- (a) Four desks with minimum working surface 42 x 30 in. (1.1 m x 750 mm) each and five non-folding chairs with upholstered seats and backs.
- (b) One desk with minimum working surface 48 x 72 in. (1.2 x 1.8 m) with height adjustment of 23 to 30 in. (585 to 750 mm).
- (c) One four-post drafting table with minimum top size of 37 1/2 x 48 in. (950 mm x 1.2 m). The top shall be basswood or equivalent and capable of being tilted through an angle of 50 degrees. An adjustable height drafting stool with upholstered seat and back shall also be provided.
- (d) Two free standing four drawer legal size file cabinet with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.
- (e) One 6 ft (1.8 m) folding table with six folding chairs.

- (f) One equipment cabinet of minimum inside dimension of 44 in. (1100 mm) high x 24 in. (600 mm) wide x 30 in. (750 mm) deep with lock. The walls shall be of steel with a 3/32 in. (2 mm) minimum thickness with concealed hinges and enclosed lock constructed in such a manner as to prevent entry by force. The cabinet assembly shall be permanently attached to a structural element of the field office in a manner to prevent theft of the entire cabinet.
- (g) One refrigerator with a minimum size of 16 cu ft (0.45 cu m) with a freezer unit.
- (h) One electric desk type tape printing calculator.
- (i) A minimum of two communication paths. The configuration shall include:
  - (1) Internet Connection. An internet service connection using telephone DSL, cable broadband, or CDMA wireless technology. Additionally, an 802.11g/N wireless router shall be provided, which will allow connection by the Engineer and up to four Department staff.
  - (2) Telephone Lines. Three separate telephone lines.
- (j) One plain paper copy machine capable of reproducing prints up to 11 x 17 in. (280 x 432 mm) with an automatic feed tray capable of storing 30 sheets of paper. Letter size and 11 x 17 in. (280 x 432 mm) paper shall be provided.
- (k) One plain paper fax machine with paper.
- (l) Two telephones, with touch tone, where available, and a digital telephone answering machine, for exclusive use by the Engineer.
- (m) One electric water cooler dispenser.
- (n) One first-aid cabinet fully equipped.
- (o) One microwave oven, 1 cu ft (0.03 cu m) minimum capacity.
- (p) One fire-proof safe, 0.5 cu ft (0.01 cu m) minimum capacity.
- (q) One electric paper shredder.
- (r) One post mounted rain gauge, located on the project site for each 5 miles (8 km) of project length."

Revise the first sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

“The building or buildings fully equipped as specified will be paid for on a monthly basis until the building or buildings are released by the Engineer.”

Revise the last sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

“This price shall include all utility costs and shall reflect the salvage value of the building or buildings, equipment, and furniture which become the property of the Contractor after release by the Engineer, except that the Department will pay that portion of the monthly long distance and monthly local telephone bills that, when combined, exceed \$150.”

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 x (FHWA hourly rate - EOC).

All time allowed shall fall within the working hours authorized for the extra work.

The rates above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhaul and maintenance of any kind, depreciation, storage, overhead, profits, insurance, and all incidentals. The rates do not include labor.

The Contractor shall submit to the Engineer sufficient information for each piece of equipment and its attachments to enable the Engineer to determine the proper equipment category. If a rate is not established in the Blue Book for a particular piece of equipment, the Engineer will establish a rate for that piece of equipment that is consistent with its cost and use in the industry.

- b. Rented Equipment. Whenever it is necessary for the Contractor to rent equipment to perform extra work, the rental and transportation costs of the equipment plus five percent for overhead will be paid. In no case shall the rental rates exceed those of established distributors or equipment rental agencies.

All prices shall be agreed to in writing before the equipment is used.”

80189

## **FLAGGER AT SIDE ROADS AND ENTRANCES (BDE)**

Effective: April 1, 2009

Revise the second paragraph of Article 701.13(a) of the Standard Specifications to read:

“The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.”

Revise the first and second paragraph of Article 701.20(i) of the Standard Specifications to read:

“Signs, barricades, or other traffic control devices required by the Engineer over and above those specified will be paid for according to Article 109.04. All flaggers required at side roads and entrances remaining open to traffic including those that are shown on the Highway Standards and/or additional barricades required by the Engineer to close side roads and entrances will be paid for according to Article 109.04.”

80228

**FRICTION AGGREGATE (BDE)**

Effective: January 1, 2011

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

- “(4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.
- a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).
  - b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase.”

Revise Article 1004.03(a) of the Standard Specifications to read:

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination:</u> Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA All Other	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination:</u> Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>11</sup> Crushed Concrete

Use	Mixture	Aggregates Allowed	
HMA High ESAL Low ESAL	Binder IL-25.0, IL-19.0, or IL-19.0L  SMA Binder	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete <sup>3/</sup>	
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-12.5, IL-9.5, or IL-9.5L  SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>4/</sup> Crushed Concrete <sup>3/</sup>	
HMA High ESAL	D Surface and Leveling Binder IL-12.5 or IL-9.5  SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone (other than Limestone) <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>5/</sup> Crushed Steel Slag <sup>4/ 5/</sup> Crushed Concrete <sup>3/</sup>	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
		50% Limestone	Any Mixture D aggregate other than Dolomite
75% Limestone	Crushed Slag (ACBF) <sup>5/</sup> or Crushed Sandstone		

Use	Mixture	Aggregates Allowed	
HMA High ESAL	E Surface IL-12.5 or IL-9.5  SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination:</u>  Crushed Gravel Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>5/</sup> Crushed Steel Slag <sup>5/</sup> Crushed Concrete <sup>3/</sup>  No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Dolomite <sup>2/</sup>	Any Mixture E aggregate
		75% Dolomite <sup>2/</sup>	Crushed Sandstone, Crushed Slag (ACBF) <sup>5/</sup> , Crushed Steel Slag <sup>5/</sup> , or Crystalline Crushed Stone
75% Crushed Gravel or Crushed Concrete <sup>3/</sup>	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF) <sup>5/</sup> , or Crushed Steel Slag <sup>5/</sup>		
HMA High ESAL	F Surface IL-12.5 or IL-9.5  SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination:</u>  Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>5/</sup> Crushed Steel Slag <sup>5/</sup> No Limestone.	
		<u>Other Combinations Allowed:</u>  <i>Up to...</i>	<i>With...</i>

Use	Mixture	Aggregates Allowed	
		50% Crushed Gravel, Crushed Concrete <sup>3/</sup> , or Dolomite <sup>2/</sup>	Crushed Sandstone, Crushed Slag (ACBF) <sup>5/</sup> , Crushed Steel Slag <sup>5/</sup> , or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When either slag is used, the blend percentages listed shall be by volume."

80265

## FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 1, 2009

Revised: July 1, 2009

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name and sign and date the form shall make this contract exempt of fuel cost adjustments for all categories of work. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and work added by adjusted unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Added work paid for by time and materials will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

### (a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.

- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.
- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B - Subbase and Aggregate Base courses	0.62	gal / ton
C - HMA Bases, Pavements and Shoulders	1.05	gal / ton
D - PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E - Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B - Subbase and Aggregate Base courses	2.58	liters / metric ton
C - HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D - PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E - Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$| CA = (FPI_P - FPI_L) \times FUF \times Q$$

- Where: CA = Cost Adjustment, \$  
FPI<sub>P</sub> = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)  
FPI<sub>L</sub> = Fuel Price Index, as published by the Department for the month prior to the letting, \$/gal (\$/liter)  
FUF = Fuel Usage Factor in the pay item(s) being adjusted  
Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Progress Payments. Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Final Quantities. Upon completion of the work and determination of final pay quantities, an adjustment will be prepared to reconcile any differences between estimated quantities previously paid and the final quantities. The value for the balancing adjustment will be based on a weighted average of FPI<sub>P</sub> and Q only for those months requiring the cost adjustment. The cost adjustment will be applicable to the final measured quantities of all applicable pay items.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI<sub>L</sub> and FPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
FUEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of fuel cost adjustments in all categories. Failure to indicate "Yes" for any category of work at the time of bid will make that category of work exempt from fuel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following categories of work?

- |  |     |                          |
|--|-----|--------------------------|
| Category A Earthwork.                          | Yes | <input type="checkbox"/> |
| Category B Subbases and Aggregate Base Courses | Yes | <input type="checkbox"/> |
| Category C HMA Bases, Pavements and Shoulders  | Yes | <input type="checkbox"/> |
| Category D PCC Bases, Pavements and Shoulders  | Yes | <input type="checkbox"/> |
| Category E Structures                          | Yes | <input type="checkbox"/> |

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

80229

335

**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 – ANTI-STRIPPING ADDITIVE (BDE)**

Effective: November 1, 2009

Revise the first and second paragraphs of Article 1030.04(c) of the Standard Specifications to read:

“(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified AASHTO T 283. To be considered acceptable by the Department as a mixture not susceptible to stripping, the conditioned to unconditioned split tensile strength ratio (TSR) shall be equal to or greater than 0.85 for 6 in. (150 mm) specimens. Mixtures, either with or without an additive, with TSRs less than 0.85 for 6 in. (150 mm) specimens will be considered unacceptable. Also, the conditioned tensile strength for mixtures containing an anti-strip additive shall not be lower than the original conditioned tensile strength determined for the same mixture without the anti-strip additive.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option.”

80245

## HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)

Effective: January 1, 2010

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

"Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 2 in. (50 mm), from each pavement edge. (i.e. for a 4 in. (100 mm) lift the near edge of the density gauge or core barrel shall be within 4 in. (100 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced ten feet apart longitudinally along the unconfined pavement edge and centered at the random density test location."

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

"Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-9.5, IL-12.5	Ndesign ≥ 90	92.0 – 96.0%	90.0%
IL-9.5, IL-9.5L, IL-12.5	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0, IL-25.0	Ndesign ≥ 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L, IL-25.0	Ndesign < 90	93.0 – 97.4%	90.0%
SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%
All Other	Ndesign = 30	93.0 - 97.4%	90.0%"

80246

## **HOT-MIX ASPHALT – DROP-OFFS (BDE)**

Effective: January 1, 2010

Revise the third paragraph of Article 701.07 of the Standard Specifications to read:

“At locations where construction operations result in a differential in elevation exceeding 3 in. (75 mm) between the edge of pavement or edge of shoulder within 3 ft (900 mm) of the edge of the pavement and the earth or aggregate shoulders, Type I or II barricades or vertical panels shall be placed at 100 ft (30 m) centers on roadways where the posted speed limit is 45 mph or greater and at 50 ft (15 m) centers on roadways where the posted speed limit is less than 45 mph.”

80250

## IMPACT ATTENUATORS, TEMPORARY (BDE)

Effective: November 1, 2003

Revised: January 1, 2007

Description. This work shall consist of furnishing, installing, maintaining, and removing temporary impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1).....	1003.01
(b) Steel Posts, Structural Shapes, and Plates .....	1006.04
(c) Rail Elements, End Section Plates, and Splice Plates .....	1006.25
(d) Bolts, Nuts, Washers and Hardware .....	1006.25
(e) Hollow Structural Tubing .....	1006.27(b)
(f) Wood Posts and Wood Blockouts .....	1007.01, 1007.02, 1007.06
(g) Preservative Treatment.....	1007.12
(h) Packaged Rapid Hardening Mortar .....	1018.01

Note 1. Fine aggregate shall be FA 1 or FA 2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

### CONSTRUCTION REQUIREMENTS

General. Impact Attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer's specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

When water filled attenuators are used between November 1 and April 15, they shall contain anti-freeze according to the manufacturer's recommendations.

Markings. Sand module impact attenuators shall be striped with alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes. There shall be at least two of each stripe on each module.

Other types of impact attenuators shall have a terminal marker applied to their nose and reflectors along their sides.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When relocation of temporary impact attenuators is specified, they shall be removed, relocated and reinstalled at the new location. The reinstallation requirements shall be the same as those for a new installation.

Removal. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

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

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Basis of Payment. This work will be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE); or IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

Relocation of the devices will be paid for at the contract unit price per each for IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE); IMPACT ATTENUATORS, RELOCATE (SEVERE USE); or IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE); of the test level specified.

Grading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

80110

## IMPROVED SUBGRADE (BDE)

Effective: January 1, 2010

Revise the second paragraph of Article 302.04 of the Standard Specifications to read:

"The quantity of modified soil constructed shall be limited to that which can be covered by the full thickness of portland cement concrete pavement or HMA binder during the same construction season."

Revise the first paragraph of Article 302.07 of the Standard Specifications to read:

**"302.07 Application of Modifier.** The modifier shall be applied uniformly on the soil. The application of modifier shall be limited to that amount which can be mixed with the soil within the same working day."

Revise the first paragraph of Article 302.08 of the Standard Specifications to read:

**"302.08 Mixing.** The modifier, soil, and water shall be thoroughly mixed. Mixing shall continue until a homogenous layer of the required thickness has been obtained and a minimum of 75 percent of the mixture is smaller than 1 in. (25 mm). The moisture content of the modified soil shall be above optimum moisture content with a maximum of three percent above optimum."

Revise Article 302.10 of the Standard Specifications to read:

**"302.10 Finishing and Curing.** When multiple lifts are used to construct the modified soil layer, the top lift shall be a minimum of 6 in. (150 mm) thick when compacted.

Construction of pipe underdrains shall follow the requirements of Article 407.07. The surface of the modified soil shall be kept drained according to Article 301.09 and shall maintain moisture content not exceeding three percent above optimum prior to pavement construction.

When compaction of the modified soil is nearing completion, the surface shall be shaped to the required lines, grades, and cross section shown on the plans. For HMA base course and pavement (full-depth) and portland cement concrete base course and pavement, the surface of the modified soil shall be brought to true shape and correct elevation according to Article 301.07, except well compacted earth shall not be used to fill low areas.

The modified soil shall be cured for a minimum of 24 hours. The ambient air temperature shall be above 45 °F (7 °C) during curing.

During the curing period, the moisture content of the modified soil shall be maintained at optimum by sprinkling with water, use of plastic sheeting, or applying bituminous materials according to Article 312.14. During this period, no equipment or traffic will be permitted on the completed work beyond that required for maintenance of curing.

Equipment of such weight, or used in such a way as to cause a rut depth of 1/2 in. (13 mm) or more in the finished modified soil, shall be removed, or the rutting otherwise prevented, as directed by the Engineer.”

Revise the first paragraph of Article 302.11 of the Standard Specifications to read:

“**302.11 Subgrade Stability.** Following curing, the Engineer will determine the stability of the modified soil in terms of the immediate bearing value (IBV), according to Illinois Test Procedure 501. The IBV shall be a minimum of 10.0 measured within 10 calendar days prior to pavement construction.”

Revise the second paragraph of Article 310.04 of the Standard Specifications to read:

“The quantity of lime stabilized soil mixture constructed shall be limited to that which can be covered by the full thickness of portland cement concrete pavement or HMA binder during the same construction season.”

Revise the first paragraph of Article 310.08(a) of the Standard Specifications to read:

“(a) Initial Mixing. The lime, soil, and water shall be thoroughly mixed until a uniform mixture throughout the required depth and width is obtained. All clods and lumps shall be reduced to a maximum size of 2 in. (50 mm). The moisture content of the stabilized soil shall be above optimum moisture content with a maximum of three percent above optimum.”

Insert the following paragraph after the first paragraph of Article 310.10 of the Standard Specifications:

“Construction of pipe underdrains shall follow the requirements of Article 407.07. The surface of the lime stabilized soil shall be kept drained according to Article 301.09 and shall maintain a maximum moisture content of three percent above optimum prior to pavement construction.”

Revise the first paragraph of Article 310.11 of the Standard Specifications to read:

“**310.11 Subgrade Stability.** Following curing, the Engineer will determine the stability of the lime stabilized soil mixture in terms of the immediate bearing value (IBV) according to Illinois Test Procedure 501. The IBV shall be a minimum of 23.0 measured within 10 calendar days prior to pavement construction.”

Revise the second paragraph of Article 311.05 of the Standard Specifications to read:

“The granular material shall be placed and compacted at least three days prior to the placement of pavement or base course. Except where required for temporary access, the quantity of subbase granular material Types A or B to be placed shall be limited to that which can be covered by the full thickness of PCC pavement or HMA binder during the same

construction season.”

80252

**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

## MONTHLY EMPLOYMENT REPORT (BDE)

Effective: April 1, 2009

Revised: January 1, 2010

In addition to any other reporting required by the contract, the Contractor shall provide to the Engineer an employment summary for all employees working on the contract from the contract execution date to the last full pay period each month for the duration of the contract. The report may include but is not limited to:

- a) Total number of employees.
- b) The total hours worked.
- c) Total payroll.

The report shall be completed by the Contractor. The Contractor shall also report for each subcontractor. Employee hours worked from home office or other off-site office hours worked related directly to this contract shall be included. Engineering consulting firms performing construction layout and material testing for the Contractor shall also be included.

Hours worked for material suppliers, services provided by purchase orders, Department employees or consulting firms performing inspection or testing for the Department shall not be included in the report.

The report shall contain all hours worked under the contract from the start of the month to the last full pay period each month and shall be submitted no later than five business days after the end of each month.

The report shall be submitted electronically by accessing the Department's website (<http://www.dot.il.gov/stimulus/index.html>).

Any costs associated with complying with this provision 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.

80238

## MULCH (BDE)

Effective: November 1, 2010

Revised: January 1, 2011

Revise the first sentence of Article 251.03 of the Standard Specifications to read:

"Within 24 hours of seed placement, mulch by one of the following methods shall be placed on the areas specified."

Revise Article 251.03(b)(2) of the Standard Specifications to read:

"(2) Procedure 2. This procedure shall consist of stabilizing the straw with an approved mulch blower followed immediately by an overspray application of light-duty hydraulic mulch. The hydraulic mulch shall be according to Article 251.03(c) except that it shall be applied as a slurry of 900 lb (1020 kg) of mulch and 1000 gal (9500 L) of water per acre (hectare) using a hydraulic mulch applicator. The light-duty hydraulic mulch shall be agitated a minimum of five minutes before application and shall be agitated during application. The light-duty hydraulic mulch shall be applied from opposing directions to ensure even coverage."

Revise Article 251.03(c) of the Standard Specification to read:

"(c) Method 3. This method shall consist of the machine application of a light-duty hydraulic mulch. Seeding shall be conducted as a separate operation and shall not be added to the hydraulic mulch slurry. Hydraulic mulch shall not be applied when the ambient temperature is at or below freezing. To achieve full and even coverage, the hydraulic mulch shall be applied from two opposing directions. Mixing and application rates shall be according to the manufacturer's recommendations and meet the minimum application rates set in Article 1081.06(a)(2)."

Revise Article 251.03(d) of the Standard Specifications to read:

"(d) Method 3A. This method shall consist of the machine application of a heavy-duty hydraulic mulch. Seeding shall be conducted as a separate operation and shall not be added to the hydraulic mulch slurry. The hydraulic mulch shall not be applied when the ambient temperature is at or below freezing. To achieve full and even coverage, the hydraulic mulch shall be applied from two opposing directions. Mixing and application rates shall be according to the manufacturer's recommendations and meet the minimum application rates set in Article 1081.06(a)(2). The heavy-duty hydraulic mulch shall be applied using a mechanically agitated hydraulic mulching machine."

Add the following to Article 251.03 of the Standard Specifications:

"(e) Method 4. This method shall consist of applying compost combined with a performance additive designed to bind/stabilize the compost. The compost/performance additive

mixture shall be applied to the surface of the slope using a pneumatic blower at a depth of 2 in. (50 mm)."

Revise Article 251.04 of the Standard Specifications to read:

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

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

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

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

When placed adjacent to the roadway, blankets shall be toed in along the edge of shoulder.

Anchoring the blankets shall be according to the manufacturer's specifications."

Revise Article 251.06(b) of the Supplemental Specifications to read:

"(b) Measured Quantities. Mulch Methods 1, 2, 3, 3A and 4 will be measured for payment in place in acres (hectares) of surface area mulched. Erosion control blanket, heavy duty erosion control blanket, and turf reinforcement mat will be measured for payment in place in square yards (square meters)."

Revise Article 251.07 of the Supplemental Specifications to read:

**"251.07 Basis of Payment.** This work will be paid for at the contract unit price per acre (hectare) for MULCH, METHOD 1; MULCH, METHOD 2; MULCH, METHOD 3; MULCH, METHOD 3A; MULCH, METHOD 4; and at the contract unit price per square yard (square meter) for EROSION CONTROL BLANKET, HEAVY DUTY EROSION CONTROL BLANKET, or TURF REINFORCEMENT MAT."

Revise Article 1081.06(a)(2) of the Standard Specifications to read:

“(2) Hydraulic Mulch. The mulch component shall be comprised of a minimum of 70 percent biodegradable material such as wood cellulose, paper fibers, straw or cotton and shall contain no growth or germination inhibiting factors. The remainder of the components shall consist of the manufacturer's choice of tackifiers and/or strengthening fibers needed to meet the performance specifications. Tackifiers shall be non-toxic and LC 50 test results shall be provided along with the manufacturer's certification. Hydraulic mulch shall disperse evenly and rapidly and remain in slurry when agitated with water. When uniformly applied, the slurry shall form an absorbent cover allowing percolation of water to the underlying surface. Hydraulic mulch shall be packaged in UV and moisture resistant factory labeled packages or bags with the net quantity of the packaged material plainly shown on each package. The biodegradable material shall be relatively free of glossy papers and shall not be water soluble. The hydraulic mulches shall be according to the following.

Light-Duty Hydraulic Mulch	
Property <sup>1/</sup>	Value
Functional Longevity <sup>2/</sup>	3 months
Minimum Application Rates	2000 lb/acre (2240 kg/ha)
Typical Maximum Slope Gradient (V:H)	≤ 1:3
Maximum Uninterrupted Slope Length	50 ft (15 m)
Maximum C Factor	0.15
Minimum Vegetation Establishment <sup>5/</sup>	200 %

Heavy-Duty Hydraulic Mulch	
Property <sup>1/</sup>	Value
Functional Longevity <sup>2/</sup>	12 months
Minimum Application Rates	3000 lb/acre (3360 kg/ha)
Typical Maximum Slope Gradient (V:H)	≤ 1:2
Maximum Uninterrupted Slope Length	100 ft (30 m)
Maximum C Factor <sup>3/4/</sup>	0.02
Minimum Vegetation Establishment <sup>5/</sup>	400 %

1/ This table sets minimum requirements only. Refer to manufacturer recommendations for application rates, instructions, gradients, maximum continuous slope lengths and other site specific recommendations.

2/ Manufacturer's estimated time period, based upon field observations, that a material can be anticipated to provide erosion control as influenced by its composition and site-specific conditions.

- 3/ "C" Factor calculated as ratio of soil loss from HECP protected slope (tested at specified or greater gradient, h:v) to ratio of soil loss from unprotected (control) plot based on large-scale testing.
- 4/ Large-scale test methods shall be according to ASTM D 6459.
- 5/ Minimum vegetation establishment shall be calculated according to ASTM D 7322.

The manufacturer shall furnish a certification with each shipment of hydraulic mulch stating the number of packages or bags furnished and that the material complies with these requirements."

80262

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM / EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE)**

Effective: April 1, 2007

Revised: November 1, 2009

Revise Article 105.03(a) of the Standard Specifications to read:

“(a) National Pollutant Discharge Elimination System (NPDES) / Erosion and Sediment Control Deficiency Deduction. When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, or the Contractor’s activities represents a violation of the Department’s NPDES permits, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 1 week based on the urgency of the situation and the nature of the work effort required. The Engineer will be the sole judge.

A deficiency may be any lack of repair, maintenance, or implementation of erosion and/or sediment control devices included in the contract, or any failure to comply with the conditions of the Department’s NPDES permits. A deficiency may also be applied to situations where corrective action is not an option such as the failure to participate in a jobsite inspection of the project, failure to install required measures prior to initiating earth moving operations, disregard of concrete washout requirements, or other disregard of the NPDES permit.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or portion of a calendar day until the deficiency is corrected to the satisfaction of the Engineer. The calendar day(s) will begin with notification to the Contractor and end with the Engineer’s acceptance of the correction. The base value of the daily monetary deduction is \$1000.00 and will be applied to each location for which a deficiency exists. The value of the deficiency deduction assessed for each infraction will be determined by multiplying the base value by a Gravity Adjustment Factor provided in Table A. Except for failure to participate in a required jobsite inspection of the project prior to initiating earthmoving operations which will be based on the total acreage of planned disturbance at the following multipliers: <5 Acres: 1; 5-10 Acres: 2; >10-25 Acres: 3; >25 Acres: 5. For those deficiencies where corrective action was not an option, the monetary deduction will be immediate and will be valued at one calendar day multiplied by a Gravity Adjustment Factor.

Table A Deficiency Deduction Gravity Adjustment Factors				
Types of Violations	Soil Disturbed and Not Permanently Stabilized At Time of Violation			
	< 5 Acres	5 - 10 Acres	>10 - 25 Acres	> 25 Acres
Failure to Install or Properly Maintain BMP	0.1 - 0.5	0.2 - 1.0	0.5 - 2.5	1.0 - 5
Careless Destruction of BMP	0.2 - 1	0.5 - 2.5	1.0 - 5	1.0 - 5
Intrusion into Protected Resource	1.0 - 5	1.0 - 5	2.0 - 10	2.0 - 10
Failure to properly manage Chemicals, Concrete Washouts or Residuals, Litter or other Wastes	0.2 - 1	0.2 - 1	0.5 - 2.5	1.0 - 5
Improper Vehicle and Equipment Maintenance, Fueling or Cleaning	0.1 - 0.5	0.2 - 1	0.2 - 1	0.5 - 2.5
Failure to Provide or Update Written or Graphic Plans Required by SWPPP	0.2 - 1	0.5 - 2.5	1.0 - 5	1.0 - 5
Failure to comply with Other Provisions of the NPDES Permit	0.1 - 0.5	0.2 - 1	0.2 - 1	0.5 - 2.5"

80180

## **NIGHTTIME WORK ZONE LIGHTING (BDE)**

Effective: November 1, 2008

Description. This work shall consist of furnishing, installing, maintaining, moving, and removing lighting for nighttime work zones. Nighttime shall be defined as occurring shortly before sunset until after sunrise.

Materials. The lighting shall consist of mobile and/or stationary lighting systems as required herein for the specific type of construction. Mobile lighting systems shall consist of luminaires attached to construction equipment or moveable carts. Stationary lighting systems shall consist of roadway luminaires mounted on temporary poles or trailer mounted light towers at fixed locations. Some lighting systems, such as balloon lights, may be adapted to both mobile and stationary applications.

Equipment. The Contractor shall furnish an illuminance meter for use by the Engineer. The meter shall have a digital display calibrated to NIST standards, shall be cosine and color corrected, and shall have an accuracy of  $\pm$  five percent. The sensor shall have a level indicator to ensure measurements are taken in a horizontal plane.

### CONSTRUCTION REQUIREMENTS

General. At the preconstruction conference, the Contractor shall submit the type(s) of lighting system to be used and the locations of all devices.

Before nighttime construction may begin, the lighting system shall be demonstrated as being operational.

Nighttime Flagging. The requirements for nighttime flagging shall be according to Article 701.13 of the Standard Specifications and the glare control requirements contained herein.

Lighting System Design. The lighting system shall be designed to meet the following.

- (a) Lighting Levels. The lighting system shall provide a minimum of 5 foot candles (54 lux) throughout the work area. For mobile operations, the work area shall be defined as 25 ft (9 m) in front of and behind moving equipment. For stationary operations, the work area shall be defined as the entire area where work is being performed.

Lighting levels will be measured with an illuminance meter. Readings will be taken in a horizontal plane 3 ft (1 m) above the pavement or ground surface.

- (b) Glare Control. The lighting system shall be designed and operated so as to avoid glare that interferes with traffic, workers, or inspection personnel. Lighting systems with flood, spot, or stadium type luminaires shall be aimed downward at the work and rotated

outward no greater than 30 degrees from nadir (straight down). Balloon lights shall be positioned at least 12 ft (3.6 m) above the roadway.

As a large component of glare, the headlights of construction vehicles and equipment shall not be operated within the work zone except as allowed for specific construction operations. Headlights shall never be used when facing oncoming traffic.

- (c) Light Trespass. The lighting system shall be designed to effectively light the work area without spilling over to adjoining property. When, in the opinion of the Engineer, the lighting is disturbing adjoining property, the Contractor shall modify the lighting arrangement or add hardware to shield the light trespass.

Construction Operations. The lighting design required above shall be provided at any location where construction equipment is operating or workers are present on foot. When multiple operations are being carried on simultaneously, lighting shall be provided at each separate work area.

The lighting requirements for specific construction operations shall be as follows.

- (a) Installation or Removal of Work Zone Traffic Control. The required lighting level shall be provided at each truck and piece of equipment used during the installation or removal of work zone traffic control. Headlights may be operated in the work zone.
- (b) Milling and Paving. The required lighting level shall be provided by mounting a minimum of one balloon light to each piece of mobile construction equipment used in the work zone. This would include milling machines, mechanical sweepers, material transfer devices, spreading and finishing machines, and rollers; but not include trucks used to transport materials and personnel or other vehicles that are continuously moving in and out of the work zone. The headlights of construction equipment shall not be operated within the work zone.
- (c) Patching. The required lighting level shall be provided at each patching location where work is being performed.
- (d) Pavement Marking and Raised Reflective Pavement Marker Removal/Installation. The striping truck and the attenuator/arrow board trucks may be operated by headlights alone; however, additional lighting may be necessary for the operator of the striping truck to perform the work.

For raised reflective pavement marker removal and installation and other pavement marking operations where workers are on foot, the required lighting level shall be provided at each truck and piece of equipment.

- (e) Layout, Testing, and Inspection. The required lighting level shall be provided for each active area of construction layout, material testing, and inspection. The work area shall be defined as 15 ft (7.6 m) in front and back of the individual(s) performing the tasks.

Basis of Payment. This work will be paid for at the contract lump sum price for NIGHTTIME WORK ZONE LIGHTING.

80208

## **PAVEMENT PATCHING (BDE)**

Effective: January 1, 2010

Revise the first sentence of the second paragraph of Article 701.17(e)(1) of the Standard Specifications to read:

"In addition to the traffic control and protection shown elsewhere in the contract for pavement, two devices shall be placed immediately in front of each open patch, open hole, and broken pavement where temporary concrete barriers are not used to separate traffic from the work area."

80254

## **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

## **POST MOUNTING OF SIGNS (BDE)**

Effective: January 1, 2011

Revise the second paragraph of Article 701.14 of the Standard Specifications to read:

“Post mounted signs shall be a breakaway design. The sign shall be within five degrees of vertical. Two posts shall be used for signs greater than 16 sq ft (1.5 sq m) in area or where the height between the sign and the ground exceeds 7 ft (2.1 m).”

80268

**PRECAST CONCRETE HANDLING HOLES (BDE)**

Effective: January 1, 2007

Add the following to Article 540.02 of the Standard Specifications:

“(g) Handling Hole Plugs..... 1042.16”

Add the following paragraph after the sixth paragraph of Article 540.06 of the Standard Specifications:

“Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar, or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.”

Add the following to Article 542.02 of the Standard Specifications:

“(ee) Handling Hole Plugs ..... 1042.16”

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

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 550.02 of the Standard Specifications:

“(o) Handling Hole Plugs..... 1042.16”

Replace the fourth sentence of the fifth paragraph of Article 550.06 of the Standard Specifications with the following:

“Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.”

Add the following to Article 602.02 of the Standard Specifications:

“(p) Handling Hole Plugs..... 1042.16(a)”

Replace the fifth sentence of the first paragraph of Article 602.07 of the Standard Specifications with the following:

“Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.”

Add the following to Section 1042 of the Standard Specifications:

**“1042.16 Handling Hole Plugs.** Plugs for handling holes in precast concrete products shall be as follows.

- (a) Precast Concrete Plug. The precast concrete plug shall have a tapered shape and shall have a minimum compressive strength of 3000 psi (20,700 kPa) at 28 days.
- (b) Polyethylene Plug. The polyethylene plug shall have a “mushroom” shape with a flat round top and a stem with three different size ribs. The plug shall fit snugly and cover the handling hole.

The plug shall be according to the following.

Mechanical Properties	Test Method	Value (min.)
Flexural Modulus	ASTM D 790	3300 psi (22,750 kPa)
Tensile Strength (Break)	ASTM D 638	1600 psi (11,030 kPa)
Tensile Strength (Yield)	ASTM D 638	1200 psi (8270 kPa)

Thermal Properties	Test Method	Value (min.)
Brittle Temperature	ASTM D 746	-49 °F (-45 °C)
Vicat Softening Point	ASTM D 1525	194 °F (90 °C)”

80171

3Lp3

**RAILROAD PROTECTIVE LIABILITY INSURANCE (5 and 10) (BDE)**

Effective: January 1, 2006

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications, except the limits shall be a minimum of \$5,000,000 combined single limit per occurrence for bodily injury liability and property damage liability with an aggregate limit of \$10,000,000 over the life of the policy. A separate policy is required for each railroad unless otherwise noted.

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NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
CSXT Railroad 500 Water Street, 15th Floor Jacksonville FL 32202		50 Trains @ 40 mph
DOT/AAR No.: 1635865 RR Division: CG	RR Mile Post: RR Sub-Division:	DIH 25.83 MCCOOK
For Freight/Passenger Information Contact: For Insurance Information Contact:	David Clark	Phone: (708)832-2067 Phone:

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Indiana Harbor Belt Railroad Co. 2721 161st Street Hammond IN 46323		
DOT/AAR No.: 1635865 RR Division: CG	RR Mile Post: RR Sub-Division:	DIH 25.83 MCCOOK
For Freight/Passenger Information Contact: For Insurance Information Contact:	Peggy Bricker	Phone: (708)201-3469 Phone:

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Approval of Insurance. The original and one certified copy of each required policy shall be submitted to the following address for approval:

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

The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Engineer evidence that the required insurance has been approved by the railroad(s). The Contractor shall also provide the Engineer with the expiration date of each required policy.

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

80157

## SEEDING (BDE)

Effective: July 1, 2004

Revised: July 1, 2010

Revise the following seeding mixtures shown in Table 1 of Article 250.07 of the Standard Specifications to read:

"Table 1 - SEEDING MIXTURES		
Class – Type	Seeds	lb/acre (kg/hectare)
1A Salt Tolerant Lawn Mixture 7/	Bluegrass	60 (70)
	Perennial Ryegrass	20 (20)
	Red Fescue (Audubon, Sea Link, or Epic)	20 (20)
	Hard Fescue (Rescue 911, Spartan II, or Reliant IV)	20 (20)
	Fults Salt Grass 1/ or Salty Alkaligrass	60 (70)
2 Roadside Mixture 7/	Tall Fescue (Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV)	100 (110)
	Perennial Ryegrass	50 (55)
	Creeping Red Fescue	40 (50)
	Red Top	10 (10)
2A Salt Tolerant Roadside Mixture 7/	Tall Fescue (Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV)	60 (70)
	Perennial Ryegrass	20 (20)
	Red Fescue (Audubon, Sea Link, or Epic)	30 (20)
	Hard Fescue (Rescue 911, Spartan II, or Reliant IV)	30 (20)
	Fults Salt Grass 1/ or Salty Alkaligrass	60 (70)
3 Northern Illinois Slope Mixture 7/	Elymus Canadensis (Canada Wild Rye)	5 (5)
	Perennial Ryegrass	20 (20)
	Alsike Cover 2/	5 (5)
	Desmanthus Illinoensis (Illinois Bundleflower) 2/, 5/	2 (2)
	Andropogon Scoparius (Little Bluestem) 5/	12 (12)
	Bouteloua Curtipendula (Side-Oats Grama)	10 (10)
	Fults Salt Grass 1/ or Salty Alkaligrass	30 (35)
	Oats, Spring	50 (55)
	Slender Wheat Grass 5/	15 (15)
	Buffalo Grass (Cody or Bowie) 4/, 5/, 9/	5 (5)

"Table 1 - SEEDING MIXTURES			
6A	Salt Tolerant Conservation Mixture	Andropogon Scoparius (Little Bluestem) 5/	5 (5)
		Elymus Canadensis (Canada Wild Rye) 5/	2 (2)
		Buffalo Grass (Cody or Bowie) 4/, 5/, 9/	5 (5)
		Vernal Alfalfa 2/	15 (15)
		Oats, Spring	48 (55)
		Fults Salt Grass 1/ or Salty Alkaligrass	20 (20)"

Revise Note 7 of Table 1 – Seeding Mixtures of Article 250.07 of the Standard Specifications to read:

"7/ In Districts 1 through 6, the planting times shall be April 1 to June 15 and August 1 to November 1. In Districts 7 through 9, the planting times shall be March 1 to June 1 and August 1 to November 15. Seeding may be performed outside these dates provided the Contractor guarantees a minimum of 75 percent uniform growth over the entire seeded area(s) after a period of establishment. Inspection dates for the period of establishment will be as follows: Seeding conducted in Districts 1 through 6 between June 16 and July 31 will be inspected after April 15 and seeding conducted between November 2 and March 31 will be inspected after September 15. Seeding conducted in Districts 7 through 9 between June 2 and July 31 will be inspected after April 15 and seeding conducted between November 16 and February 28 will be inspected after September 15. The guarantee shall be submitted to the Engineer in writing prior to performing the work. After the period of establishment, areas not exhibiting 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at no additional cost to the Department."

Revise the first paragraph of Article 1081.04(a) of the Standard Specifications to read:

"(a) Sampling and Testing. Each lot of seed furnished shall be tested by a State Agriculture Department (including other States) or by land grant college or university agricultural sections or by a Registered Seed Technologist. Germination testing of seed shall be accomplished within the 12 months prior to the seed being installed on the project."

Delete the last sentence of the first paragraph of Article 1081.04(c)(2) of the Standard Specifications.

Revise Table II of Article 1081.04(c)(6) of the Standard Specifications to read:

TABLE II						
Variety of Seeds	Hard Seed	Purity	Pure Live Seed %	Weed %	Secondary * Noxious Weeds No. per oz (kg)	Notes
	%	%	%	%	Max. Permitted	
	Max.	Min.	Min.	Max.		
Alfalfa	20	92	89	0.50	6 (211)	1/

TABLE II						
Variety of Seeds	Hard Seed %	Purity %	Pure Live Seed %	Weed %	Secondary * Noxious Weeds No. per oz (kg)	Notes
	Max.	Min.	Min.	Max.	Max. Permitted	
Clover, Alsike	15	92	87	0.30	6 (211)	2/
Red Fescue, Audubon	0	97	82	0.10	3 (105)	-
Red Fescue, Creeping	-	97	82	1.00	6 (211)	-
Red Fescue, Epic	-	98	83	0.05	1 (35)	-
Red Fescue, Sea Link	-	98	83	0.10	3 (105)	-
Tall Fescue, Blade Runner	-	98	83	0.10	2 (70)	-
Tall Fescue, Falcon IV	-	98	83	0.05	1 (35)	-
Tall Fescue, Inferno	0	98	83	0.10	2 (70)	-
Tall Fescue, Tarheel II	-	97	82	1.00	6 (211)	-
Tall Fescue, Quest	0	98	83	0.10	2 (70)	-
Fults Salt Grass	0	98	85	0.10	2 (70)	-
Salty Alkaligrass	0	98	85	0.10	2 (70)	-
Kentucky Bluegrass	-	97	80	0.30	7 (247)	4/
Oats	-	92	88	0.50	2 (70)	3/
Redtop	-	90	78	1.80	5 (175)	3/
Ryegrass, Perennial, Annual	-	97	85	0.30	5 (175)	3/
Rye, Grain, Winter	-	92	83	0.50	2 (70)	3/
Hard Fescue, Reliant IV	-	98	83	0.05	1 (35)	-
Hard Fescue, Rescue 911	0	97	82	0.10	3 (105)	-
Hard Fescue, Spartan II	-	98	83	0.10	3 (105)	-
Timothy	-	92	84	0.50	5 (175)	3/
Wheat, hard Red Winter	-	92	89	0.50	2 (70)	3/

Revise the first sentence of the first paragraph of Article 1081.04(c)(7) of the Standard Specifications to read:

"The seed quantities indicated per acre (hectare) for Prairie Grass Seed in Classes 3, 3A, 4, 4A, 6, and 6A in Article 250.07 shall be the amounts of pure, live seed per acre (hectare) for each species listed."

80131

## **SELF-CONSOLIDATING CONCRETE FOR PRECAST PRODUCTS (BDE)**

Effective: July 1, 2004

Revised: July 1, 2010

Definition. Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation.

Usage. Self-consolidating concrete may be used for precast concrete products.

Materials. Materials shall be according to Section 1021 of the Standard Specifications.

Mix Design Criteria. The mix design criteria shall be as follows:

- (a) The minimum cement factor shall be according to Article 1020.04 of the Standard Specifications. If the maximum cement factor is not specified, it shall not exceed 7.05 cwt/cu yd (418 kg/cu m).
- (b) The maximum allowable water/cement ratio shall be according to Article 1020.04 of the Standard Specifications or 0.44, whichever is lower.
- (c) The slump requirements of Article 1020.04 of the Standard Specifications shall not apply.
- (d) The coarse aggregate gradations shall be CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 may be used when the Contractor provides satisfactory evidence to the Engineer that the mix will not segregate. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used.
- (e) The slump flow range shall be  $\pm 2$  in. ( $\pm 50$  mm) of the Contractor target value, and within the overall Department range of 20 in. (510 mm) minimum to 28 in. (710 mm) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 4 in. (100 mm). The Contractor may specify a lower maximum in the mix design.
- (h) The L-box blocking ratio shall be a minimum of 60 percent. The Contractor may specify a higher minimum in the mix design.
- (i) The hardened visual stability index shall be a maximum of 1.

Mixing Portland Cement Concrete. In addition to Article 1020.11 of the Standard Specifications, the mixing time for central-mixed concrete shall not be reduced as a result of a mixer

performance test. Truck-mixed or shrink-mixed concrete shall be mixed in a truck mixer for a minimum of 100 revolutions.

Wash water, if used, shall be completely discharged from the drum or container before the succeeding batch is introduced.

The batch sequence, mixing speed, and mixing time shall be appropriate to prevent cement balls and mix foaming for central-mixed, truck-mixed, and shrink-mixed concrete.

Placing and Consolidating. The maximum distance of horizontal flow from the point of deposit shall be 25 ft (7.6 m), unless approved otherwise by the Engineer.

Concrete shall be rodded with a piece of lumber, conduit, or vibrator if the material has lost its fluidity prior to placement of additional concrete. The vibrator shall be the pencil head type with a maximum diameter or width of 1 in. (25 mm). Any other method for restoring the fluidity of the concrete shall be approved by the Engineer.

Mix Design Approval. The Contractor shall obtain mix design approval according to the Department's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products".

80132

## STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 2, 2004

Revised: April 1, 2009

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

Metal Piling (excluding temporary sheet piling)  
Structural Steel  
Reinforcing Steel

Other steel materials such as dowel bars, tie bars, mesh reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in has a contract value of \$10,000 or greater.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars  
Q = quantity of steel incorporated into the work, in lb (kg)  
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where:  $MPI_M$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

$MPI_L$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the  $MPI_M$  will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the  $MPI_L$  and  $MPI_M$  in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

**Attachment**

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness)	23 lb/ft (34 kg/m)
Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness)	32 lb/ft (48 kg/m)
Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness)	37 lb/ft (55 kg/m)
Other piling	See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	20 lb/ft (30 kg/m)
Steel Plate Beam Guardrail, Type B w/steel posts	30 lb/ft (45 kg/m)
Steel Plate Beam Guardrail, Types A and B w/wood posts	8 lb/ft (12 kg/m)
Steel Plate Beam Guardrail, Type 2	305 lb (140 kg) each
Steel Plate Beam Guardrail, Type 6	1260 lb (570 kg) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	730 lb (330 kg) each
Traffic Barrier Terminal, Type 1 Special (Flared)	410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	11 lb/ft (16 kg/m)
Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m)	14 lb/ft (21 kg/m)
Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m)	21 lb/ft (31 kg/m)
Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m)	13 lb/ft (19 kg/m)
Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m)	19 lb/ft (28 kg/m)
Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m)	31 lb/ft (46 kg/m)
Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m)	65 lb/ft (97 kg/m)
Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m)	80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	64 lb/ft (95 kg/m)
Steel Railing, Type S-1	39 lb/ft (58 kg/m)
Steel Railing, Type T-1	53 lb/ft (79 kg/m)
Steel Bridge Rail	52 lb/ft (77 kg/m)
Frames and Grates	
Frame	250 lb (115 kg)
Lids and Grates	150 lb (70 kg)

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
STEEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following items of work?

Metal Piling	Yes	<input type="checkbox"/>
Structural Steel	Yes	<input type="checkbox"/>
Reinforcing Steel	Yes	<input type="checkbox"/>
Dowel Bars, Tie Bars and Mesh Reinforcement	Yes	<input type="checkbox"/>
Guardrail	Yes	<input type="checkbox"/>
Steel Traffic Signal and Light Poles, Towers and Mast Arms	Yes	<input type="checkbox"/>
Metal Railings (excluding wire fence)	Yes	<input type="checkbox"/>
Frames and Grates	Yes	<input type="checkbox"/>

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

80127

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## **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, 2011

Add the following to Article 280.02 of the Standard Specifications to read:

- “(k) Filter Fabric ..... 1080.03
- “(l) Urethane Foam/Geotextile .....1081.15(i)”

Revise the third paragraph of Article 280.03 of the Standard Specifications to read:

“Erosion control systems shall be installed prior to beginning any activities which will potentially create erodible conditions. Erosion control systems for areas outside the limits of construction such as storage sites, plant sites, waste sites, haul roads, and Contractor furnished borrow sites shall be installed prior to beginning soil disturbing activities at each area. These offsite systems shall be designed by the Contractor and be subject to the approval of the Engineer.”

Add the following paragraph after the third paragraph of Article 280.03 of the Standard Specifications:

“The temporary erosion and sediment control systems shown on the plans represent the minimum systems anticipated for the project. Conditions created by the Contractor’s operations, or for the Contractor’s convenience, which are not covered by the plans, shall be protected as directed by the Engineer at no additional cost to the Department. Revisions or modifications of the erosion and sediment control systems shall have the Engineer’s written approval.”

Revise Article 280.04(a) of the Standard Specifications to read:

“(a) Temporary Ditch Checks. This system consists of the construction of temporary ditch checks to prevent siltation, erosion, or scour of ditches and drainage ways. Temporary ditch checks shall be constructed with products from the Department’s approved list, rolled excelsior, or with aggregate placed on filter fabric when specified. Filter fabric shall be installed according to the requirements of Section 282. Riprap shall be placed according to Article 281.04. Manufactured ditch checks shall be installed according to the manufacturer’s specifications. Spacing of ditch checks shall be such that the low point in the center of one ditch check is at the same elevation as the base of the ditch check immediately upstream. Temporary ditch checks shall be sufficiently long enough that the top of the device in the middle of the ditch is 6 in. (150 mm) lower than the bottom of the terminating ends of the ditch side slopes.

When rolled excelsior is used, each ditch check shall be installed and maintained such that the device is no less than 10 in. (250 mm) high at the point of overflow. Units installed at a spacing requiring a height greater than 10 in. (250 mm) shall be maintained at the height for the spacing at which they were originally installed.”

Revise the last sentence of the first paragraph Article 280.04(b) of the Standard Specifications to read:

"The barrier shall be constructed with rolled excelsior, silt filter fence, or urethane foam/geotextiles."

Revise the last sentence of the first paragraph of Article 280.04(g) of the Standard Specifications to read:

"The temporary mulch cover shall be installed according to Article 251.03 except for any reference to seeding."

Add the following to Article 280.04 of the Standard Specifications:

- (h) Temporary Erosion Control Blanket. This system consists of temporarily installing erosion control blanket or heavy duty erosion control blanket over areas that are to be reworked during a later construction phase. Work shall be according to Article 251.04 except references to seeding and fertilizer shall not apply. When an area is to be reworked more than once, the blanket shall be carefully removed, properly stored, and then reinstalled over the same area."

Revise Article 280.07(b) of the Standard Specifications to read:

- "(b) Temporary Ditch Checks. This work will be measured for payment along the long axis of the device in place in feet (meters) except for aggregate ditch checks which will be measured for payment in tons (metric tons). Payment will not be made for aggregate in excess of 108 percent of the amount specified by the Engineer."

Revise Article 280.07(f) of the Standard Specifications to read:

- "(f) Temporary Mulch. This work will be measured for payment according to Article 251.05(b)."

Add the following to Article 280.07 of the Standard Specifications:

- "(g) Temporary Erosion Control Blanket. This work will be measured for payment in place in square yards (square meters) of actual surface covered.

Add the following paragraph after the ninth paragraph of Article 280.07 of the Standard Specifications:

"Temporary or permanent erosion control systems required for areas outside the limits of construction will not be measured for payment."

Revise Article 280.08(b) of the Standard Specifications to read:

“(b) Temporary Ditch Checks. This work will be paid for at the contract unit price per foot (meter) for TEMPORARY DITCH CHECKS except for aggregate ditch checks which will be paid for at the contract unit price per ton (metric ton) for AGGREGATE DITCH CHECKS.”

Revise Article 280.08(f) of the Standard Specifications to read:

“(f) Temporary Mulch. Temporary Mulch will be paid for according to Article 251.06.”

Add the following to Article 280.08 of the Standard Specifications:

“(g) Temporary Erosion Control Blanket. Temporary Erosion Control Blanket will be paid for at the contract unit price per square yard (square meter) for TEMPORARY EROSION CONTROL BLANKET or TEMPORARY HEAVY DUTY EROSION CONTROL BLANKET.

The work of removing, storing, and reinstalling the blanket over areas to be reworked more than once will not be paid for separately but shall be included in the cost of the temporary erosion control blanket or temporary heavy duty erosion control blanket.”

Delete the tenth (last) paragraph of Article 280.08 of the Standard Specifications.

Revise the second sentence of the first paragraph of Article 1081.15(e) of the Standard Specifications to read:

“The upstream facing of the aggregate ditch check shall be constructed of gradation CA 3. The remainder of the ditch check shall be constructed of gradation RR 3.”

Revise Article 1081.15(f) of the Supplemental Specifications to read:

“(f) Rolled Excelsior. Rolled excelsior shall consist of an excelsior fiber filling totally encased inside netting and sealed with metal clips or knotted at the ends. The fiber density shall be a minimum of 1.24 lb/cu ft (20 kg/cu m) based on a moisture content of 22 percent at manufacturing. The netting shall be composed of a polyester or polypropylene material which retains 70 percent of its strength after 500 hours of exposure to sunlight. The maximum opening of the net shall be 1 x 1 in. (25 x 25 mm).”

Add the following to Article 1081.15 of the Standard Specifications:

“(i) Urethane Foam/Geotextile. Urethane foam/geotextile shall be triangular shaped having a minimum height of 10 in. (250 mm) in the center with equal sides and a minimum 20 in. (500 mm) base. The triangular shaped inner material shall be a low density urethane foam. The outer cover shall be a woven geotextile fabric placed around the inner material and allowed to extend beyond both sides of the triangle a minimum of 18 in. (450 mm).

(1) The geotextile shall meet the following properties:

Property	Value	Test Method
Grab Tensile Strength lb (N) (min.)	124 (550) min.	ASTM D 4632
Grab Elongation @ Brake (percent)	15 min.	ASTM D 4632
Burst Strength psi (kPa)	280 (1930) min.	ASTM D 3786
AOS (Sieve No.)	30 min.	ASTM D 4751
UV Resistance (500 hours) (percent)	80 min.	ASTM D 4355

(2) The urethane foam shall meet the following properties:

Property	Value	Test Method
Density lb/cu ft (kg/cu m)	1.0 ± 0.1 (16.0 ± 1.6)	ASTM D 3574
Tensile Strength psi (kPa)	10 (70) min.	ASTM D 3574
Elongation (percent)	125 min.	ASTM D 3574
Tear Resistance lb/in. (N/mm)	1.25 (0.22)	ASTM D 3574"

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**TRAINING SPECIAL PROVISIONS (BDE)** This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be **4**. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT The unit of measurement is in hours.

BASIS OF PAYMENT This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

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**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

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**ATTACHMENTS**

**A. Employment Preference for Appalachian Contracts  
(included in Appalachian contracts only)**

**I. GENERAL**

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;  
Section IV, paragraphs 1, 2, 3, 4 and 7;  
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.
6. Selection of Labor: During the performance of this contract, the contractor shall not:
  - a. Discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

- b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

**II. NONDISCRIMINATION**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60 (and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

- a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
- b. The contractor will accept as his operating policy the following statement: "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job-training."

**2. EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for an must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

- a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
- b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
- c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
- d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees,

applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employees referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish which such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be

in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

**8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees.

Contractors shall obtain lists of DBE construction firms from SHA

personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

**9. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training,

qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of

DBE subcontractors or subcontractors with meaningful minority and

female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

### III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

### IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located

on roadways classified as local roads or rural minor collectors, which are exempt.)

#### 1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

#### 2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the

contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the question, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advised the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

### 3. Payment of Fringe Benefits:

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

### 4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

#### a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any

employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid

the full amount of fringe benefits listed on the wage determination

for the applicable classification. If the Administrator for the Wage

and Hour Division determines that a different practice prevails for

the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

#### b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which cases such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration

withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**c. Helpers:**

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV. 2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

**5. Apprentices and Trainees (Programs of the U.S. DOT):**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**6. Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainee's and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**7. Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**8. Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or

permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

**9. Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall; upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

**V. STATEMENTS AND PAYROLLS**

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

**1. Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

**2. Payrolls and Payroll Records:**

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely

all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for submitting payroll copies of all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
- (2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
- (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S. C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

## VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all federal-aid contracts on the national highway system, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

- a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
- b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
- c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data

required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

## VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractors' own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

## VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in

surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

#### **IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

##### **NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS**

18 U.S.C. 1020 reads as follows:

*“Whoever, being an officer, agent or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or*

*Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or*

*Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;*

*Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.”*

#### **X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more).

By submission of this bid or the execution of this contract, or

subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 *et seq.*, as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et seq.*, as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

#### **XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal

is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification in all lower tier covered transactions

and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Primary Covered Transactions**

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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#### **2. Instructions for Certification - Lower Tier Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealing.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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2. Where the prospective primary participant is unable to certify

**Certification Regarding Debarment, Suspension, Ineligibility And  
Voluntary Exclusion-Lower Tier Covered Transactions:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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**XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY  
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

**NOTICE**

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.