Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

September 10, 2007

SUBJECT: FAP Route 335
Project ACHPP-HPP-NHF-0335 (009)
Section 119R-2
Lake County
Contract No. 60B01
Item No. 59, September 21, 2007 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised pages 3 – 7, 10, 12, 14, 17, 20 & 23 - 25 of the Schedule of Prices.
2. Revised page v of the Table of Contents to the Special Provisions.
3. Revised pages 1, 2, 6, 7 and 19 – 37 of the Special Provisions.
4. Added pages 282 – 284 to the Special Provisions.
5. Revised sheets 2, 5–8, 10–15, 23, 24, 32, 34–36, 56, 57, 60, 61, 63, 67, 69, 79, 116, 117, 121, 122, 126, 134, 137, 139, 144, 147, 148, 150, 152–154, 160, 165, 166, 170, 173, 179, 190, 191, 196, 200, 202, 227, 232, 239, 240, 268, 269, 271, 301 and 394-402
6. Added sheets 154A, 301A, 301B & 301C to the Plans.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Eric E. Harm
Interim Bureau Chief
Bureau of Design and Environment

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Diane O'Keefe, Region 1, District 1; Roger Driskell; Estimates

TBW:MS:jc

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60B01

State Job # - C-91-230-06
PPS NBR - 1-74000-0100
County Name - LAKE- -
Code - 97 - -
District - 1 - -
Section Number - 119R-2

Project Number ACHPP-HPP-NHF-0335/009/

Route FAP 335

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
XX006937	GROUND ROD 5/8 X 10	EACH	37.000				
XX011700	WATER MAIN FITTINGS	POUND	40.000				
XX172700	MAN TA 8 DIA T1F CL	EACH	1.000				
X0320816	SLEEPER SLAB	SQ YD	295.000				
X0320870	BRACED EXCAVATION	CU YD	4,424.000				
X0321556	SANITARY MANHOLE ADJ	EACH	2.000				
X0321598	MH TA 6D W/2 T1FCL RP	EACH	2.000				
X0322033	STORM SEW WM REQ 12	FOOT	729.000				
X0322034	STORM SEW WM REQ 15	FOOT	11.000				
X0322054	REM PRC FL END SEC	EACH	20.000				
X0322092	STORM SEW WM REQ 48	FOOT	234.000				
X0322256	TEMP INFO SIGNING	SQ FT	1,074.000				
X0322671	STAB CONSTR ENTRANCE	SQ YD	2,310.000				
X0322695	MAST ARM STL ST LT 12	EACH	2.000				
* DELETED							
		* REVISED : SEPTEMBER 7, 2007					

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* X0323426	SED CONT DR ST INL CL	EACH	304.000				
* X0323670	PREFORM DETECT LOOP	FOOT	638.000				
X0323792	LTG CONTR 1D CONS TY	EACH	2.000				
X0323830	DRAINAGE SCUPPR DS-11	EACH	24.000				
X0323973	SED CONT SILT FENCE	FOOT	7,101.000				
X0323974	SED CONT SILT FN MAIN	FOOT	1,776.000				
X0323988	TEMP SOIL RETEN SYSTM	SQ FT	2,912.000				
X0324872	CIP T/D WSS RAMP DISB	SQ FT	103.000				
X0325737	TEMP TR SIGNAL TIMING	EACH	4.000				
* X0325751	DRIVE SOLDIER PILES	FOOT	870.000				
X0325828	REL EX SCAM CAB&POLE	EACH	3.000				
X0325829	STL MAAAP DMA 44 & 52	EACH	1.000				
X0325830	STL MAAAP DMA 48 & 55	EACH	1.000				
X0325831	STAB SUB-BASE HMA 3"	SQ YD	7,681.000				
X0325832	CON ATS 1.5 GALVS PVC	FOOT	125.000				
* X0325833	WICK DRAINS	FOOT	26,142.000				
		* REVISED : SEPTEMBER 7, 2007					

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X0325834	HOR STRIP DRAINS	FOOT	2,970.000				
X0325863	ABAN WM CUT & REMOV	FOOT	400.000				
X0712400	TEMP PAVEMENT	SQ YD	13,547.000				
X4021000	TEMP ACCESS- PRIV ENT	EACH	1.000				
X4200534	HES PCC PVT 10 SPL	SQ YD	672.000				
* X5120900	FUR SOLD PILE HP12X53	FOOT	250.000				
* X5120902	FUR SOLD PIL HP 14X73	FOOT	620.000				
X5121800	PERM STEEL SHT PILING	SQ FT	528.000				
X6700410	ENGR FLD OFF A SPL	CAL MO	14.000				
X8050010	SERV INSTALL GRND MT	EACH	2.000				
X8050015	SERV INSTALL POLE MT	EACH	1.000				
X8510200	PAINT TRAF SIG EQUIP	L SUM	1.000				
X8620020	UNINTER POWER SUPPLY	EACH	4.000				
* X8730027	ELCBL C GROUND 6 1C	FOOT	4,673.000				
* X8730250	ELCBL C 20 3C TW SH	FOOT	3,314.000				
Z0001050	AGG SUBGRADE 12	SQ YD	50,156.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
		* REVISED : SEPTEMBER 7, 2007					

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Z0030250	IMP ATTN TEMP NRD TL3	EACH	6.000				
Z0030350	IMP ATTN REL NRD TL3	EACH	11.000				
Z0076600	TRAINEES	HOUR	5,000.000		0.800		4,000.000
20100110	TREE REMOV 6-15	UNIT	513.000				
20100210	TREE REMOV OVER 15	UNIT	38.000				
20101000	TEMPORARY FENCE	FOOT	600.000				
* 20200100	EARTH EXCAVATION	CU YD	14,400.000				
20200410	EARTH EXCAVATION SPL	CU YD	6,860.000				
* 20201200	REM & DISP UNS MATL	CU YD	20,081.000				
* 20400800	FURNISHED EXCAV	CU YD	68,315.000				
20700400	POROUS GRAN EMB SPEC	CU YD	734.000				
20700420	POROUS GRAN EMB SUBGR	CU YD	4,185.000				
* 20800150	TRENCH BACKFILL	CU YD	3,136.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	44,756.000				
* 21101615	TOPSOIL F & P 4	SQ YD	59,535.000				
		* REVISED : SEPTEMBER 7, 2007					

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Route FAP 335

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
25000210	SEEDING CL 2A	ACRE	5.250				
25000300	SEEDING CL 3	ACRE	5.250				
25000312	SEEDING CL 4A	ACRE	1.500				
25000400	NITROGEN FERT NUTR	POUND	1,127.000				
25000500	PHOSPHORUS FERT NUTR	POUND	1,127.000				
25000600	POTASSIUM FERT NUTR	POUND	1,127.000				
25100630	EROSION CONTR BLANKET	SQ YD	82,406.000				
* 25200100	SODDING	SQ YD	4,002.000				
25200200	SUPPLE WATERING	UNIT	2,966.000				
28000250	TEMP EROS CONTR SEED	POUND	652.000				
* 28000300	TEMP DITCH CHECKS	EACH	61.000				
28000500	INLET & PIPE PROTECT	EACH	14.000				
* 28000510	INLET FILTERS	EACH	152.000				
28100107	STONE RIPRAP CL A4	SQ YD	206.000				
28200200	FILTER FABRIC	SQ YD	206.000				
		* REVISED : SEPTEMBER 7, 2007					

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Route FAP 335

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
48101498	AGGREGATE SHLDS B 4	SQ YD	859.000				
48203021	HMA SHOULDERS 6	SQ YD	3,119.000				
50100100	REM EXIST STRUCT	EACH	1.000				
50105210	REM EXIST CULVERTS	FOOT	38.000				
50105220	PIPE CULVERT REMOV	FOOT	116.000				
50157300	PROTECTIVE SHIELD	SQ YD	4,384.000				
* 50200100	STRUCTURE EXCAVATION	CU YD	2,743.000				
50200410	ROCK EXC STRUCT SPL	CU YD	150.000				
50300225	CONC STRUCT	CU YD	608.000				
50300255	CONC SUP-STR	CU YD	1,154.000				
50300260	BR DECK GROOVING	SQ YD	3,186.000				
50300280	CONCRETE ENCASEMENT	CU YD	32.000				
50300300	PROTECTIVE COAT	SQ YD	5,362.000				
50500105	F & E STRUCT STEEL	L SUM	1.000				
50500505	STUD SHEAR CONNECTORS	EACH	13,860.000				
* 50700207	TREATED TIMBER LAG	SQ FT	2,053.000				
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Route: FAP 335

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
542A2749	P CUL CL A 4 24	FOOT	184.000				
542A2761	P CUL CL A 4 36	FOOT	269.000				
54213447	END SECTIONS 12	EACH	3.000				
54213450	END SECTIONS 15	EACH	4.000				
54213459	END SECTIONS 24	EACH	4.000				
54213465	END SECTIONS 30	EACH	2.000				
54213657	PRC FLAR END SEC 12	EACH	12.000				
54213663	PRC FLAR END SEC 18	EACH	2.000				
54213681	PRC FLAR END SEC 36	EACH	2.000				
54215412	CIP RC END SEC 12	EACH	3.000				
54215448	CIP RC END SEC 48	EACH	1.000				
550A0050	STORM SEW CL A 1 12	FOOT	636.000				
550A0070	STORM SEW CL A 1 15	FOOT	55.000				
550A0120	STORM SEW CL A 1 24	FOOT	7.000				
* 550A0340	STORM SEW CL A 2 12	FOOT	2,840.000				
		* REVISED : SEPTEMBER 7, 2007					

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	Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
	55101600	STORM SEWER REM 36	FOOT	420.000				
	56400100	FIRE HYDNTS TO BE MVD	EACH	1.000				
	56400500	FIRE HYDNTS TO BE REM	EACH	2.000				
	58700300	CONCRETE SEALER	SQ FT	4,730.000				
	59100100	GEOCOMPOSITE WALL DR	SQ YD	286.000				
	59300100	CONTR LOW-STRENG MATL	CU YD	181.000				
	60100060	CONC HDWL FOR P DRAIN	EACH	7.000				
*	60107700	PIPE UNDERDRAINS 6	FOOT	2,720.000				
*	60108200	PIPE UNDERDRAIN 6 SP	FOOT	222.000				
*	60109582	P UNDR FOR STRUCT 6	FOOT	379.000				
	60201310	CB TA 4 DIA T20F&G	EACH	72.000				
	60205010	CB TA 5 DIA T20F&G	EACH	1.000				
*	60206905	CB TC T1F OL	EACH	10.000				
	60207605	CB TC T8G	EACH	1.000				
	60207905	CB TC T11F&G	EACH	5.000				
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Route: FAP 335

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60623711	CONC MEDIAN	SQ FT	308.000				
63000000	SPBGR TY A	FOOT	1,587.500				
63100045	TRAF BAR TERM T2	EACH	3.000				
63100085	TRAF BAR TERM T6	EACH	3.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	5.000				
63200310	GUARDRAIL REMOV	FOOT	2,956.000				
63500105	DELINEATORS	EACH	38.000				
63500120	DELINEATOR REMOVAL	EACH	40.000				
* DELETED							
66400305	CH LK FENCE 6	FOOT	112.000				
66410300	CH LK FENCE REMOV	FOOT	111.000				
67100100	MOBILIZATION	L SUM	1.000				
70101800	TRAF CONT & PROT SPL	L SUM	1.000				
70106800	CHANGEABLE MESSAGE SN	CAL MO	60.000				
70300510	PAVT MARK TAPE T3 L&S	SQ FT	2,421.000				
		* REVISED : SEPTEMBER 7, 2007					

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Project Number: ACHPP-HPP-NHF-0335/009/
Route: FAP 335

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
78008250	POLYUREA PM T1 LN 12	FOOT	708.000				
78008270	POLYUREA PM T1 LN 24	FOOT	996.000				
78100100	RAISED REFL PAVT MKR	EACH	472.000				
78200100	MONODIR PRIS BAR REFL	EACH	244.000				
78200410	GUARDRAIL MKR TYPE A	EACH	31.000				
78201000	TERMINAL MARKER - DA	EACH	5.000				
78300100	PAVT MARKING REMOVAL	SQ FT	9,109.000				
78300200	RAISED REF PVT MK REM	EACH	288.000				
80400100	ELECT SERV INSTALL	EACH	3.000				
81000600	CON T 2 GALVS	FOOT	3,682.000				
* 81000700	CON T 2 1/2 GALVS	FOOT	1,884.000				
* 81000800	CON T 3 GALVS	FOOT	73.000				
81001000	CON T 4 GALVS	FOOT	40.000				
81018500	CON P 2 GALVS	FOOT	1,855.000				
* 81018900	CON P 4 GALVS	FOOT	2,053.000				
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86400100	TRANSCEIVER - FIB OPT	EACH	3.000				
87100160	FO CAB C 62.5/125 24F	FOOT	11,415.000				
87301205	ELCBL C SIGNAL 14 1C	FOOT	4,819.000				
* 87301215	ELCBL C SIGNAL 14 2C	FOOT	2,652.000				
* 87301225	ELCBL C SIGNAL 14 3C	FOOT	2,838.000				
* 87301245	ELCBL C SIGNAL 14 5C	FOOT	18,612.000				
* 87301255	ELCBL C SIGNAL 14 7C	FOOT	2,519.000				
* 87301305	ELCBL C LEAD 14 1PR	FOOT	23,866.000				
87301805	ELCBL C SERV 6 2C	FOOT	169.000				
87502480	TS POST GALVS 14	EACH	10.000				
* DELETED							
87502520	TS POST GALVS 18	EACH	2.000				
87700150	S MAA & P 22	EACH	1.000				
87700180	S MAA & P 28	EACH	1.000				
87700200	S MAA & P 32	EACH	1.000				
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87700250	S MAA & P 42	EACH	1.000				
87700260	S MAA & P 44	EACH	1.000				
87700280	S MAA & P 48	EACH	3.000				
87700290	S MAA & P 50	EACH	3.000				
87700300	S MAA & P 52	EACH	3.000				
* DELETED							
87702860	STL COMB MAA&P 26	EACH	1.000				
87703000	STL COMB MAA&P 55	EACH	1.000				
* 87704405	S C MAA&P DMA 34 & 55	EACH	1.000				
* 87800100	CONC FDN TY A	FOOT	56.000				
87800150	CONC FDN TY C	FOOT	8.000				
87800200	CONC FDN TY D	FOOT	4.000				
* 87800400	CONC FDN TY E 30D	FOOT	160.000				
* 87800415	CONC FDN TY E 36D	FOOT	120.000				
87900200	DRILL EX HANDHOLE	EACH	8.000				
* 88030020	SH LED 1F 3S MAM	EACH	48.000				
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* 88030050	SH LED 1F 3S BM	EACH	21.000				
88030070	SH LED 1F 4S BM	EACH	2.000				
* 88030100	SH LED 1F 5S BM	EACH	4.000				
* 88030110	SH LED 1F 5S MAM	EACH	4.000				
* 88200110	TS BACKPLATE LOUVERED	EACH	52.000				
88500100	INDUCTIVE LOOP DETECT	EACH	62.000				
* 88600100	DET LOOP T1	FOOT	2,405.000				
88600300	DET LOOP T3	FOOT	2,930.000				
88700200	LIGHT DETECTOR	EACH	12.000				
88700300	LIGHT DETECTOR AMP	EACH	10.000				
89000100	TEMP TR SIG INSTALL	EACH	4.000				
89500100	RELOC EX SIG HEAD	EACH	3.000				
89502300	REM ELCBL FR CON	FOOT	7,836.000				
89502375	REMOV EX TS EQUIP	EACH	4.000				
89502380	REMOV EX HANDHOLE	EACH	40.000				
		* REVISED : SEPTEMBER 7, 2007					

SUSPENSION OF SLIPFORMED PARAPETS.....281

DRIVEN SOLDIER PILE RETAINING WALL 282

Revised 09/10/2007

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1, 2007 (hereinafter referred to as the Standard Specifications): the latest edition of the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of F.A.P. 335 (Illinois Route 60) over I-94 (Tri-State Tollway), Project ACHPP-HPP-NHF-0335 (009), Section 119R-2, Lake County and in case of conflict with any or part or parts of said specifications, the said Special Provisions shall take precedence and shall govern.

FAP 335 (Illinois Route 60) over I-94 (Tri-State Tollway)
Project ACHPP-HPP-NHF-0335 (009)
Section: 119R-2
County: Lake
Contract No.: 60B01

LOCATION OF PROJECT

This improvement on Illinois Route 60 begins at Station 432+83.12, at the western end of the intersection with Riverwoods Road/Boulevard, and extends in an easterly direction to Station 470+56.84, a point west of the intersection with Field Drive/Saunders Road. Improvements to and along the ramps leading to/from the Tri-State Tollway are also included in the proposed improvements. The roadway improvement gross length is 5,191 Feet (0.98 miles), which includes the work along Illinois Route 60 and the Tollway ramps. The improvements are located with the City of Lake Forest and the Village of Mettawa.

Description of Project

The work includes the removal and replacement of Illinois Route 60 over I-94 (Tri-State Tollway) (Proposed SN 049-2012). The proposed bridge cross section will consist of three 12 foot through lanes and two 12 foot left turn lanes in each direction separated by a 6 foot wide raised concrete median. A 14 foot wide bicycle path will be accommodated on the westbound side of the bridge and a 5 foot wide raised sidewalk on the eastbound side of the bridge. The overall bridge superstructure width will be 152'-7" and the approximate length will be 246 feet. The structure will be a two span continuous steel plate girder superstructure supported on integral abutments and a pile supported multi-column bent concrete pier.

Revised 09/10/2007

Widening and resurfacing of the approach roadway along Illinois Route 60 (approximately 3,770 ft.) will also be performed. The typical section consists of three 12 foot lanes in each direction separated by a variable median width. There will be one 12 foot exclusive right turn lane in each direction, an exclusive westbound left turn lane, and variable width median at Riverwoods Boulevard/Riverwoods Road. Two 12 foot left turn lanes with barrier median will be provided at Field Drive/Saunders Road. B-6.24 concrete curb and gutter is typical.

A portion of the Illinois State Tollway Highway Authority interchange ramps will also be reconstructed (approximately 700 feet southbound entrance/exit and 1,000 feet northbound entrance/exit). Dual left and right turn lanes will be provided on exit ramps. Entrance ramps will accommodate dual left turn lanes and single right turn lanes.

Two new retaining walls will be constructed along the south side of IL 60 between Riverwoods Road and the SB I-94 entrance ramp. Each wall will be approximately 150 feet long with an average height of approximately 5 feet.

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.

Revised 09/10/2007

Tollway Permit and Bond
Effective: January 13, 1989

The Contractor will be required to obtain a permit from the Illinois State Toll Highway Authority (ISTHA) in accordance with Article 107.04 of the Standard Specifications prior to initiating any lane closures on the Tollway or doing any work on the ISTHA right of way. As part of the permit, the Contractor will be required to post a surety bond with the ISTHA.

The Contractor will furnish a copy of the authorized permit to the Engineer.

Completion Date Plus Working Days
Effective: September 30, 1985 Revised: January 1, 2007

Revise Article 108.05 (b) of the Standard Specifications as follows:

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by **11:59 PM on May 15, 2009** except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within **10** working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

Article 108.09 of the Special Provision for "Failure to Complete the Work on Time", shall apply to both the completion date and the number of working days.

Interim Completion Date 1
The Contractor shall complete, by March 1, 2008, all work shown on the plans and/or specified in the contract specifications for the removal and replacement of the north portion of the I-94 median pier.

Interim Completion Date 2
The Contractor shall complete, by May 15, 2008, all work as shown on the plans and/or specified in the contract specifications included within Maintenance of Traffic Stages 1, 1A, and 2 (provision for two lanes of traffic in each direction with left turn lanes at intersections between project reconstruction limits at approximately Riverwoods Road/ Riverwoods Boulevard to the west and Saunders Road/Field Drive to the east). This is necessary to minimize the duration of lane reductions on IL 60.

Interim Completion Date 3
The Contractor shall complete, by June 15, 2008, all work as shown on the plans and/or specified in the contract for the removal of the south portion of the shoulder pier adjacent to the southbound lanes of I-94.

Interim Completion Date 4
The Contractor shall complete, by December 1, 2008, all work as shown on the plans and/or specified in the contract to allow opening to traffic of all proposed lanes on IL 60, I-94 northbound and southbound ramps, Saunders Road, and Field Drive.

Failure to Complete the Work by Interim Completion Dates
Should the Contractor fail to complete the required work on or before the completion date specified in the Special Provision for Interim Completion Dates 1, 2, 3, and 4, the Contractor shall be liable to the

Department in the amount of $2,550 (in accordance with Article 108.09), not as a penalty but as liquidated damages, for each calendar day or portion thereof of overrun in the contract time.

In fixing the monetary 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 to ascertain, and may become a matter of argument and unprofitable litigation. The 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 hard to ascertain. Furthermore, no provision of this clause shall be construed as a penalty, as such is not the intention of the parties.

Article 108.09 for "Failure to Complete the Work on Time" shall apply to this Special Provision.

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

Porous Granular Embankment, Subgrade

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

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. The material shall be used as a bridging layer over soft, pumpy, loose soil and for placing under water and shall conform with Article 1004.04 except the gradation shall be as follows:

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

Sieve Size	Percent Passing
*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, Crushed Gravel and Pit Run Gravel

Sieve Size	Percent Passing
*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 than18 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.

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

reinforcement shall be pulled taut, staked in place, and select fill placed from the rear face of the blocks outward. The lift thickness shall be the lesser of 10 in. (255 mm) loose measurement or the proposed block height.

The select granular backfill shall be compacted according to Article 205.05, except the minimum required compaction shall be 95 percent of the standard laboratory density. Compaction shall be achieved using a minimum of 3 passes of a lightweight mechanical tamper, roller, or vibratory system. The top 12 in. (300 mm) of backfill shall be a cohesive, impervious material capable of supporting vegetation, unless other details are specified on the plans.

The blocks shall be maintained in position as successive lifts are compacted along the rear face of the block. Vertical, horizontal, and rotational alignment tolerances shall not exceed 0.5 in. (12 mm) when measured along a 10 ft. (3 m) straight edge.

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

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

Maintenance of Traffic (I-94)

This Maintenance of Traffic (I-94) special provision amends the provisions Section 701 of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, adopted January 1, 2007 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract. It shall only apply to maintenance of traffic on the I-94 mainline and IL 60 entrance and exit ramps within the limits specified in the contract plans.

Replace this section in its entirety with the following:

701.01 Description and Special Conditions

(a) General**.** This work shall consist of the furnishing, installation, maintenance, relocation and removal of all standard signs, barricades, cones, warning lights, flaggers and other devices which are used for the purpose of warning, regulating, directing or otherwise controlling the flow of traffic where a public trafficway must be established and maintained through construction on the Tollway and Local and State Roads included in the work. Standard signs are those signs which appear in the MUTCD and the Illinois Supplement except those in Section 2E through 2J.

The Contractor shall furnish, install, maintain, and remove all specified traffic control devices as well as any additional devices determined necessary by the Engineer in accordance with the Contract Plans, Special Provisions, the latest edition of the “Manual on Uniform Traffic Control Devices for Streets and Highways” with Illinois Supplement (MUTCD), which manual shall be understood to be a contract document. This work shall also include the furnishing of flaggers for the installation and removal of temporary pavement markings, as required by the Engineer, unless otherwise provided.

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In the event of severe weather conditions, the Contractor shall provide additional personnel and equipment to maintain all traffic control devices. In such conditions and in addition to general maintenance requirements, Contractor personnel shall maintain continuous surveillance and shall continuously realign and relocate all traffic control devices displaced by wind, traffic, Contractor operations, or any other cause.

The existence of general roadway illumination shall not relieve the Contractor of his responsibility for furnishing and maintaining any of the protective facilities hereinafter specified.

Whenever workmen are working within 30 feet of the traffic flow, the Contractor shall use a radar emulator to affect reduced traffic speed.

(b) Penalties

(1) Non Compliance with Specifications. The Contractor will be subject to a penalty of $1000 or 0.05 percent of the awarded contract value, whichever is greater, per incident per day, to be deducted from the next pay estimate due the Contractor, for each occurrence when the Engineer determines that the Contractor or his Subcontractor is not in full compliance with the Maintenance of Traffic Specifications.

(2) Failure to Respond. The Contractor shall be required to respond within 1/2 hour to any request from the Engineer for re-aligning, replacing or moving traffic control devices or Temporary concrete barrier, or otherwise re-establishing compliance with the Maintenance of Traffic Specifications. “Respond” is interpreted to mean on the job preparing to make repairs. Failure by the Contractor to so respond shall be grounds for a penalty of $1000 or 0.05 percent of the awarded contract value, whichever is greater, for each and every occurrence, to be deducted from the next pay estimate due the Contractor.

(3) Failure to Repair Impact Attenuators, Temporary. If during the term of the Contract, any Impact Attenuators, Temporary furnished and installed by the Contractor is damaged or displaced by any cause or event, the Contractor shall be responsible for repairing, replacing and/or realigning the component modules and restoring the system to the intended configuration.

The Contractor shall complete all such necessary system restoration within 24 hours of notification by the Engineer. Failure to comply with this requirement shall be grounds for a daily penalty of $1000 or 0.05 percent of the awarded contract value, whichever is greater for each day or portion thereof (after the initial 24 hour period) that the directed restoration remains incomplete, to be deducted from the next pay estimate due the Contractor.

(4) Loss or Damage to Tollway-Owned Devices. The Contractor will be required to remove all traffic control devices furnished by the Tollway which are installed and maintained by him under the contract and deliver them to the Tollway’s Sign Shop in Naperville, IL. All such traffic control devices shall remain in place until specific authorization to relocate the traffic control devices is received from the Engineer for stage changes or modifications of lane closures.

The cost of any Tollway-owned signs damaged beyond re-use or lost due to the Contractor’s negligence will be deducted from the monies due the Contractor under the item Traffic Control and Protection (Special) pay item at the rate of $100.00 per square foot of sign so lost or damaged or the sign shall be replaced in - kind.

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(5) Non-Compliance with IDOT Maintenance of Traffic. To ensure a prompt response to incidents involving the integrity of the work zone traffic control devices, the Contractor shall provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis. When the Engineer is notified or determines a deficiency exists, he/she shall be the sole judge as to whether the deficiency is an immediate safety hazard. The Contractor shall dispatch sufficient resources within 2 hours of notification to make needed corrections of deficiencies that constitute an immediate safety hazard. Other deficiencies shall be corrected within 12 hours. If the Contractor fails to restore the required traffic control and protection within the time limits specified above, the Engineer will impose a daily monetary deduction for each 24-hour period (or portion thereof) the deficiency exists. This time period will begin with the time of notification to the Contractor and end with the Engineer's acceptance of the corrections. The daily deduction will be $1000 or 0.05 percent of the awarded contract value, whichever is greater, per day. In addition, if the Contractor fails to respond, the Engineer may correct the deficiencies and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities.

701.02 Materials. All materials used for the various traffic control devices shall conform to the applicable requirements of Materials, Division 1000 of the Standard Specifications.

701.03 Devices

(a) Barricades**.** Barricade sheeting shall meet the initial minimum brightness values of Article 1106.02.

Type II barricades shall be constructed of non-metallic materials and shall have no rigid stay bracing for the "A" frames. Details of barricade fabrication are to be submitted and approved by the Engineer. Type I barricades shall be constructed of lightweight materials and shall not utilize rigid stay bracing for the "A" frames.
Barricades shall be weighted as required to resist knock-down from wind-blast generated by passing vehicles. Under no circumstances shall weights be placed on top of the barricades.

Unless otherwise specifically provided in these Specifications, the Plans, or the Special Provisions, barricades shall be equipped with steady burning lights meeting the requirements of Article 701.03 (e).

(b) Cones**.** Cones used to channelize traffic on the Tollway shall have a nominal height of 28 inches. All cones shall have a broadened, weighted base and shall be made of material that is able to withstand impact without damage to the cones or to vehicles. The Contractor shall certify that they are NCHRP 350 compliant.

The dominant color of cones shall be fluorescent orange. All cones shall be kept clean and bright for maximum visibility. The use of cones for lane closures or traffic control during hours of darkness will not be permitted, except in extreme emergency conditions.

(c) Plastic Drums**.** Drums shall be 18" minimum diameter, 36" high. Drums shall be non-metallic and have alternating reflectorized orange and reflectorized white horizontal, circumferential stripes 4 inches to 8 inches in width. There shall be at least two orange and at least two white stripes on each drum. If nonreflective spaces are left between the orange and white stripes, they shall be no more than 2 inches in width. All nonreflectorized portions of the drums shall be orange or white. Drums may be slightly conical in shape and may have one or more flat surfaces to minimize rolling when hit.

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Drum sheeting shall meet the initial minimum brightness values as shown in Article 1106.02.

Where plastic drums are specified, Type II barricades may be used in lieu of drums. If flashing or steady burning lights are required for drums, this requirement shall be extended to the Type II barricades. Drums and Type II barricades shall not be intermixed within an individual taper or string of devices. This does not prohibit drums from being used in a taper section with Type II barricades being used in the tangent section, or vice versa. If flashing or steady burning lights are not required, the Contractor shall certify the plastic drums are NCHRP 350 compliant.

(d) Signs. All signs must meet the approval of the Engineer. Such signs shall be either plywood or aluminum for signs under 24 square feet and plywood only for signs over 24 square feet. Signs utilizing a base of fabric, fiberboard or other flexible or frangible material will not be permitted.

Plywood shall be exterior type B-B high density overlay plywood or better conforming to NIST specification PS-1 for construction and industrial plywood. Use 0.50 inch thick plywood for all sign panels.

Abrade, clean, and degrease the face of the plywood panel according to methods recommended by the manufacturer of the retroreflective sheeting. Treat the edges of the plywood panel with an approved edge sealant.

Aluminum shall be flat aluminum sheet conforming to ASTM B209, alloy 6061-T6 or 5052-H38. Thickness shall be 0.080 inch for panels having no dimension greater than 48 inches and 0.125 inch for panels having any dimension more than 48 inches.

Sign faces shall be reflective sheeting meeting the requirements of Section 1106, with appropriate legend and/or symbols. The design features of the signs including such items as shape, color, corner radius, border width, letter size, legend placement and symbol dimensions shall be in accordance with the Plan details and with the publications entitled “Standard Highway Signs” and “Standard Alphabets for Highway Signs” published by the Federal Highway Administration. All sign sheeting shall meet the initial minimum brightness values as shown in Article 1106.01. All diamond-shaped construction warning signs used on mainline, crossroads and ramps shall be fluorescent orange in color.

All temporary sign supports shall be furnished by the Contractor. Portable supports shall be designed and constructed to yield upon impact to minimize hazard to motorists, but shall be sturdy enough to resist knock-down from wind-blast generated by passing vehicles. Sandbags shall be used as needed to provide stability.

Temporary post-mounted signs shall be mounted on wood posts no larger than 4 x 4 inches or on steel or aluminum supports of a size that will not constitute a hazard to motorists and shall be approved by the Engineer.

Construction traffic signs necessary only during working hours shall be removed or covered during non-working hours.

(e) Warning Lights. There are three types of warning lights which may be specified for use in connection with barricades and signs: Type A, Low Intensity; Type B, High Intensity and Type C, Steady Burn. All are defined as portable, lens directed, enclosed lights emitting a yellow color. Lights shall be in accordance with the current requirements of the ITE Standard for Flashing and Steady Burn Warning Lights.

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Unless otherwise shown in the Plans or directed by the Engineer, Type A and Type C lights shall be uni-directional, visible from one side only.

Warning lights shall consist of a metal or plastic case, transistorized electrical circuit, and head. Lights shall be visible for 1,500 feet under normal atmospheric conditions. All lights shall meet the approval of the Engineer.

Warning lights utilizing an internal power source (batteries) shall be so constructed that when batteries are installed, the terminals are on top of the battery. Batteries shall be confined within the case. Terminals on the batteries may be either plug or spring type. All electrical connections shall be of noncorrosive material.

The case for the battery shall be constructed of aluminum, galvanized steel or high impact-resistant plastic. The case shall have vandal-proof fastenings for mounting on barricades or signs. The case shall be weatherproof.

Batteries shall be provided by the Contractor but shall not be installed until the light is ready to be used. The Contractor shall replace all batteries at such times as may be directed by the Engineer.

Each light shall utilize a removable transistor circuit which shall be in a weatherproof, hermetically sealed container. Each light shall have a separate, concealed manual switch that can be activated externally by a special key.

The head for each light shall consist of a housing, reflector, light bulb, and lens(es). The head shall be capable of rotation up to 180 degrees about its vertical axis. The head shall be sealed against outside atmospheric conditions and attached to the case by an acceptable and approved means. The lens shall be 7 inches in diameter and shall be amber in color, in accordance with the requirements of the MUTCD.

Type A and Type C lights shall be equipped with a 0.35 to 0.55 watt bulb or L.E.D. equivalent. Bulbs for high intensity Type B units shall be at least 4 watts or L.E.D. equivalent.

Where warning lights on barricades are required, they shall be installed at a minimum mounting height of 36 inches to the bottom of the lens.

Any lights reported out of order by the Engineer shall be replaced or repaired by the Contractor within 12 hours after notification.

(f) Arrow Boards**.** Arrow boards shall be used where shown in the plans.

Flashing “pass right” or “left” patterns, other than simultaneous shaft, shall not be used.

It shall be capable of displaying a simultaneously flashing shaft to the right and to the left, as well as a flashing shaft with simultaneous right and left. In addition, each board shall be capable of operating in a caution mode with four or more flashing lamps arranged in a pattern which will not indicate direction.

The boards shall be rectangular in shape and finished in nonreflective flat back with the lamps recess-mounted or with hoods surrounding at least the upper half of the lamps.

The lamps shall be amber 12-volt, sealed beam units, hooded and spaced so as to substantially fill the board. The board shall have a flat black background. All arrow boards

shall be composed of at least 5 lighted lamps at an angle of 35 to 60 degrees measured from the horizontal. Shafts for Patterns 2 and 3 shall be composed of at least 4 lighted lamps (3rd pulse) and shall be composed of at least 3 lighted lamps for Pattern 4. Shafts in the bidirectional mode shall be composed of 3 lighted lamps for Types B and C units. A dimmer control shall be provided and shall be capable of varying the lamp voltage from 6.0 volts to 12 volts. Trailer-mounted units shall be equipped with a photoelectrically operated switch capable of varying the lamp voltage from 6 Volts for nighttime use to 12 Volts for daylight use. Roof-mounted units may be equipped with a manually operated voltage control switch.

The power to operate the arrow board shall be supplied from self-contained batteries, (with or without a solar panel generator), a vehicle's electrical system, a gasoline or diesel fueled generator, or an external power source. Trailer mounted units may be equipped with permanently-mounted fuel tanks no greater than 25 gallons (U.S.) in capacity. Additional fuel shall not be stored near the trailer.

Where external power is used, the cable placement shall meet the approval of the Engineer and all electrical codes applicable to the area shall be observed. When greater than 24 volts is supplied externally, the service cable shall be fused at a location sufficiently removed from the unit so as to leave no live wires exposed at or near the unit in the event of a vehicular collision.

Where batteries are used as the primary power source, they shall be of sufficient capacity to provide, between charging, 11 volts or greater to each of the lamps in any mode for a period of at least 72 continuous hours of operation at full daylight intensity. Units that operate on battery power shall have a permanently-mounted voltmeter which shall be wired so as to measure the voltage available to the lamps.

Trailer-mounted units, utilizing gasoline or diesel fueled generators or external power source, shall be equipped with storage batteries wired so that the unit will automatically switch to battery power in the event of failure of the primary power source. The batteries shall be capable of providing sufficient capacity to operate the units for a minimum of three continuous hours in any mode at 11 volts or greater.

Operations and components of the boards shall be as follows:

Flash Rate: 25 to 40 Flashes/Minute (no lamps shall remain illuminated during "off" time).

Percent on Time: 1st Pulse - 75%
2nd Pulse - 50% Sequencing
3rd Pulse - 25% Patterns
Bidirectional - 50%
Simultaneous - 50%

Board Type:	B	C
Mounting	Truck or Trailer	Trailer
Minimum Bd. Size:	2.5' X 5'	4' X 8'
Minimum Lamp Size:	PAR 36,	PAR 46,
Minimum Candle Power at Design Voltage:	7,000	8,800
Minimum Mounting Height: (Pavement to bottom of board)	6' Truck	7' Trailer 7'

(g) Portable Changeable Message Signs (PCMS). PCMS used to provide advance warning and information on the Tollway should have the front face of the sign covered with a protective material. The color of the elements should be yellow or orange on a black background.

The PCMS should be visible from 1300 feet under both day and night conditions. Each sign character shall be clearly visible from 900 feet minimum. The message should have adjustable display rates, so that the entire message can be read at least twice at the posted speed or the anticipated speed.

The control system should include a display screen for reviewing messages and be capable of maintaining memory when power is interrupted.

The message sign operating software shall be National Transportation Communication Infrastructure Protocol (NTCIP) compliant and must be compatible and functional with Illinois Tollway Traffic Operation Center (TOC) Sign Control Software.

The PCMS should be equipped with a power source and battery back-up to provide continuous operations.

The bottom of the PCMS shall be a minimum of 7 feet above the roadway when operating. This height may be reduced to a minimum of 5 feet during high wind conditions to assure stability of the PCMS.

(h) Personal Protective Equipment. All personnel, excluding flaggers, working outside of a vehicle (car or truck) within 25 ft of pavement open to traffic shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer's tag identifying them as meeting the ANSI Class 2 requirements.

(i) Flagging Equipment. Whenever a flagger is required to be assigned to traffic control for daytime operations, the flagger(s) shall be equipped with a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 for Conspicuity Class 2 garments and flagger traffic control paddles. If the flagger is required during nighttime operations, the flagger shall be equipped with a full-body garment of fluorescent orange or fluorescent orange and fluorescent yellow-green meeting the requirements of ANSI/ISEA 107-2004 for Conspicuity Class 3 garments. All maintenance workers are required to wear ANSI Class 3 apparel during nighttime operations.

Hard hats shall be worn by all persons in a construction or maintenance area.

(j) Truck Mounted Attenuators. Truck mounted attenuators, equivalent to Model ALPHA 60 MD manufactured by Energy Absorption Systems, Incorporated of Chicago, Illinois shall be mounted on a vehicle meeting the recommendations of the attenuator manufacturer. These vehicles shall not be used to haul liquid marking materials, solvents or fuels.

(k) Radar Emulator**.** This device will alert drivers with radar detectors. Devices originally designed or intended for applications in the measurement of speed, security systems, ingress/egress controls, traffic counting or traffic signal activations shall not be used. The device's configuration shall accommodate an efficient combined forward and rear facing coupled application, resulting in a single, horizontally mounted two-way operational unit.

Devices and mounting brackets considered under this specification shall be constructed of DOW-555 ABS or equivalent material and shall not possess painted or unpainted exposed metallic parts or surfaces. All internal components shall be encapsulated in Thermoset Type

EP-281 epoxy potting material or equivalent, and shall comply with the UL Standard Flame Retardant Test. Shore hardness shall be rated at a minimum of 60 by the ASTM-D-2240 method. The device shall meet or exceed the horizontal burning test of 94HB at a 1/8" test section. The device shall possess rigidity characteristics and impact resistance commensurate with the Military Drop Test, Mil/Std - 331, Test 111.1. The device shall not exceed outside dimensions of 6 inches by 3 inches.

The device shall be capable of uninterrupted performance in diverse and extreme climatic conditions. The unit shall operate efficiently from -40 degrees Fahrenheit to +185 degrees Fahrenheit, and shall not exceed a maximum frequency of 5 MHZ throughout these temperature ranges. All devices considered under this specification shall be waterproof, and upon the application of power, immediately operate per specification.

The maximum field strength of the primary beam shall not cause it to exceed 2,600 linear feet as measured from the front of the device. The device shall have provision for an optional accessory remote intrusion alarm signal. The primary beam width shall not exceed 160 degrees, or be less than 80 degrees on the horizontal plane, and shall be at least 40 degrees on the vertical plane. The device shall employ BeamVaricatorTM or equivalent circuitry, enabling continuous verification of the device's operational status. Confirmation of status shall be evidenced via a bi-polar light emitting diode located to the front of the device, confirming a primary beam transmission, field disturbance and self-evaluation. All devices considered shall possess a 'self-testing capability' - enabling visual confirmation of a positive indication of a system failure.

This specification specifically excludes devices employing oscillating GUNN diode sources' as the signal source. The device shall not create interference for operating police radar. All devices considered must operate per specification from power sources ranging from 6 Volts DC to 28 Volts DC and shall not exceed a current consumption of 65 mA maximum - 50 mA typical.

A device meeting these requirements is available from The Toman Group, Inc., 636-386-2278.

(l) Barrier Delineators**.** Barrier delineators are to be installed by the Contractor in accordance with IDOT Recurring Special Provision titled "Guardrail and Barrier Wall Delineation". All barrier delineators, new and existing, shall be kept clean for optimal visibility.

701.04 General Requirements

(a) Coordination. Prior to beginning construction the Contractor shall be required to attend a meeting arranged by the Department and the Engineer with representatives of the Tollway and Contractors from adjoining Contracts. The purpose of this meeting shall be to ascertain the exact scheduling of traffic phases, identify any immediate changes necessary, and to coordinate construction staging to provide consistent roadway conditions. In order to maintain close coordination during the prosecution of the work, the Contractor shall arrange and attend weekly maintenance of traffic coordination meetings with representatives of all adjoining contracts. It is mandatory that any intermediate traffic phase changes, staging changes or other disruptions of traffic flow will be coordinated at these meetings. No changes or disruptions will be allowed unless prior approval in writing is given by the Engineer.
Traffic staging, lane closures, the placement and removal of signs, pavement striping, or the placement and removal of other traffic control devices within the limits of the Contract may require coordination with other Contracts in adjacent sections. The provisions of Article

105.08 of the Standard Specifications will apply at those locations. Should a conflict arise between Contracts with respect to sequence of construction or maintenance of traffic requirements, said conflicts shall be resolved by, or at the direction of the Engineer.

During initial traffic staging and all intermediate traffic phase changes, the Contractor shall provide direct radio contact between the Engineer and all of his traffic control vehicles and personnel.

(b) Lanes and Ramps. The Contractor shall schedule his construction operations so as to maintain the minimum number of lanes as shown in the Maintenance of Traffic Plans exclusive of acceleration lanes, deceleration lanes, or weaving lanes, in both mainline directions, subject to the conditions specified for each construction stage. Construction scheduling shall also be such as to maintain a single lane of traffic on all ramps.

The Contractor shall be required to maintain the ramp acceleration and deceleration taper lengths shown in the Plans as a minimum. The Contractor shall be permitted to use shorter lengths for a maximum of three 3 continuous hours with prior written approval of the Engineer.

(c) Construction Delays**.** The Contractor will be expected to prosecute the work without undue delays or extended time intervals between activities, whenever lane closures are in effect. If, in the judgment of the Engineer, the lack of Contractor's activities is, or is expected to be of an unacceptably lengthy duration, the Contractor, when so instructed by the Engineer, shall remove all lane closures until such time as the Contractor is ready to resume his activities.

(d) Responsibility for Traffic Movement. The Contractor shall be solely responsible for maintenance of traffic on the Tollway within the limits of the Contract during the term of the Contract. The Contractor may submit his own maintenance of traffic plan, but will not be permitted to change or alter the construction staging and barricade system detailed in the Plans without prior written approval of the Engineer. Ramps may not be closed to traffic without the Engineer's prior approval.

No work which will require movement of vehicles to and from work sites, or which will otherwise interfere with Tollway traffic will be permitted during the holiday periods specified in Article 701.12.

(e) Shoulders and Gores. During construction, a portion of the existing Tollway shoulders and gore areas may be used for traffic lanes. When this is necessary, shoulder repairs shall be made as required in order to bring the shoulder to a useable condition. The shoulders shall be repaired at locations noted in the Plans and/or as directed by the Engineer. This work will be measured and paid for in accordance with the provisions of Section 442. Where shown in the Plans or as directed by Engineer, gore areas shall be temporarily filled to provide a smooth riding surface for use as a traffic lane. Slotted drains shall be securely covered with 0.024" aluminum flashing, 12" wide to prevent intrusion of bituminous material into the pipe. A paper bond breaker shall be used, except at edges, to facilitate removal of such temporary fill when no longer required. This installation and the subsequent removal of such temporary fill shall be considered as included in the Contract lump sum price for Traffic Control and Protection (Special). The Contractor shall be responsible for the continuous maintenance of the shoulders and gore areas while they are utilized for traffic and make all necessary repairs as requested and directed by the Engineer. This work will be paid for according to Article 109.04. After the shoulders are no longer required for traffic lanes, the Contractor will repair shoulder areas as directed by the Engineer. This work shall be measured and paid for in accordance with the provisions of Section 442.

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(f) Altered Conditions and Temporary Lane Closures. It is the intention of the Tollway to provide consistent stage changing throughout all contracts. In the event of construction changes and with the approval of the Chief Engineer and the Department, the Contractor may be allowed to proceed into subsequent stages or continue in a particular stage that may be inconsistent with the traffic flow through adjoining contracts. The implementation of any such deviations and inconsistencies shall be understood to be for the convenience of the Contractor and, unless otherwise specifically agreed in writing between the parties to the Contract, shall be undertaken without additional cost to the Department and without cause for the Contractor claiming delay.

The Contractor shall notify the Engineer two (2) weeks in advance of beginning his work, and shall obtain written approval of the Engineer of his intended work; however, the Engineer may require alteration of the intended work procedure as dictated by prevailing traffic conditions.

I-94 Mainline lane closures must be approved by the Engineer and the Tollway. Closures must be requested in writing by the Contractor through the Engineer using Tollway standard request forms eight days in advance of the requested closure.

Forms must be received by 1:00 p.m. The Contractor shall refer to the Illinois Tollway Lane Closure Guide (March 2006) (Pages 93, 94, 111, and 112) and the table below when requesting lane closures.

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Allowable Number of Lane Closures for the Northbound Direction						
	Time					
Day	5am - 9am	9am - 3pm	3pm - 8pm	8pm - 10pm	10pm - 12pm	12pm - 5am **
Sunday	1	Normal*	0	0	1	2
Monday	1	Normal*	0	1	1	2
Tuesday	1	Normal*	0	1	1	2
Wednesday	1	Normal*	0	1	1	2
Thursday	1	Normal*	0	0	1	2
Friday	0	Normal*	0	0	1	2
Saturday	0	Normal*	0	0	1	2

Allowable Number of Lane Closures for the Southbound Direction						
	Time					
Day	5am - 9am	9am - 3pm	3pm - 8pm	8pm - 10pm	10pm - 12pm	12pm - 5am **
Sunday	0	Normal*	0	0	1	2
Monday	0	Normal*	0	1	1	2
Tuesday	0	Normal*	0	1	1	2
Wednesday	0	Normal*	0	1	1	2
Thursday	0	Normal*	0	1	1	2
Friday	0	Normal*	0	1	1	2
Saturday	0	Normal*	0	1	1	2

* "Normal indicates that only intermittent or moving operations, such as those required for maintenance are allowed.

** A second lane may be closed depending on the traffic at that time. The Contractor must obtain written permission from the Tollway prior to submitting the lane closure request.

The Contractor shall provide to the Engineer a proposed master plan schedule for lane closures prior to the Notice to Proceed. On the last day of each month, the Contractor shall provide the Engineer with a listing of all anticipated closures for the following month.

Revised 09/10/2007

(g) Intermediate Phase Changes. The Contractor will be allowed one intermediate phase change per direction per stage, subject to the requirements herein specified. An intermediate phase change shall be defined as an interim traffic transition or jog within a stage and shall be implemented with 83:1 taper rates or as detailed on the Tollway Standard Drawing SD 05-36, transition edge lines and transition barricades on 50 foot centers. The location of the shift and the installation of proper signing shall be approved by the Engineer. If a conflict with adjoining Contracts should arise, construction staging as shown in the Plan Typical Sections shall take precedence over any intermediate phase change.

(h) Work Zone Speed Limit Signing. Whenever workers are present and so close (12' or less) to moving traffic that an undue hazard exists, Sign Assemblies (Construction Speed Limit Sign), as detailed in the IDOT Standard Drawings, shall be placed adjacent to the open traffic lane(s) at a distance of 500 feet to a maximum of 2500 feet in advance of the workers throughout the work area. Moving operations will require continuous adjustment of the Sign Assembly location in order to maintain the above interval.

An additional Sign Assembly shall be placed 500 feet beyond the last entrance ramp for each interchange that falls within the 2500 foot interval.

The Sign Assembly shall be placed no closer than 500 feet from any other sign.

The Sign Assembly shall not be utilized when workers are behind a temporary (movable barrier) wall.

The Sign Assembly shall be promptly removed or covered when workers are not present so close to moving traffic. All conflicting speed limit signs shall be covered or removed.

Signs R2-5a, R 2-1 with G20-I102 and G20 - I103 shall be in place when the Sign Assembly (Construction Speed Limit Sign) is up. These signs shall also be removed or covered when the Sign Assembly is removed or covered, unless otherwise required by the maintenance of traffic plan.

701.05 Construction Sequences and Traffic Staging

The governing factor in the execution and staging of construction is to provide the motoring public with safe possible travel conditions on both the Tollway and interchange ramps. In case of conflict in sequence of construction between Contractors, work items and/or Plans, this will be the governing consideration. The Engineer shall have sole authority in resolving such conflicts.

All construction sequences and traffic staging shall be as shown in the Maintenance of Traffic Plans and described in detail in the Special Provisions. No deviation therefrom will be permitted, except as provided in Article 701.04.

Revised 09/10/2007

Simultaneous work activities on both side of the same direction of tollway traffic shall not be allowed. The Contractor shall be subject to a penalty under Article 701.01 (b)(1) whenever the Contractor or his/her Sub-Contractor is found to be in non-compliance.

701.06 Construction Traffic Management

(a) General Requirements. All signs, markings, barricades, warning lights, flaggers, or other devices that are used for the purpose of regulating, warning and guiding Tollway traffic shall be in accordance with the Contract Plans, Special Provisions, and the MUTCD.

All flaggers engaged in work zone traffic control operations are required to be certified by IDOT or by an agency approved by the IDOT. While on the job site, each flagger shall have in his/her possession a current driver's license and a current flagger certification I.D. meeting IDOT requirements. For non-drivers, the Illinois Identification Card issued by the Secretary of State will meet the requirement for a current driver's license. This flagger certification requirement may be waived by the Engineer for emergency situations that arise due to actions beyond the Contractor's control where flagging is needed to maintain safe traffic control on a temporary basis.

Whenever the operation of the Contractor endangers or interferes with vehicular traffic on the Tollway as determined by the Engineer, the Contractor shall place and subsequently remove all traffic control devices necessary to guide vehicular traffic and protect the motoring public at no additional cost to the Department. Sandbags which are used to secure barricades and sign stands shall be included. The Engineer shall have the right to inspect all traffic control equipment furnished by the Contractor before the start of general construction. In addition, the Contractor shall furnish additional flaggers on a continuous basis whenever any construction operations encroach on traveled lanes.

A flagger will be required 200' in advance of any work area where construction vehicles and trucks are entering or leaving the work site and at all times during which workers are present where traffic is restricted to less than the normal number of lanes on a multi-lane pavement and the workers are not separated from the traffic by physical barriers, flaggers shall be furnished at the Contractor's expense to protect the workers and to warn and direct traffic.

The flagger shall be stationed to the satisfaction of the Engineer and equipped as specified in 701.03(i). Except as otherwise shown on the plans, one flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. "FLAGGER AHEAD" signs will be required in advance of a flagger station (500' on mainline; 200' on ramps) at all times that a flagger is used to control traffic. Such signs shall be removed or covered when the flagger is not present.

Revised 09/10/2007

All temporary signing and marking shall be in place and approved by the Engineer prior to beginning any other work on the Contract. The Contractor shall be responsible for the proper location, installation and arrangement for all traffic control devices used for the project. The Engineer will inspect the placement of traffic control devices before work begins on each construction stage. Any deficiencies shall be corrected by the Contractor before starting work in any stage.

Whenever particular work or procedures dictate a relocation of proposed or existing traffic control devices, including barricades, signs, signals, markings, and flaggers, as determined by the Engineer, the Contractor shall remove, relocate and re-erect the identified devices. After such work or procedure has been completed, the Contractor, at the Engineer's direction, shall return and re-erect such devices in their original locations. All advance warning signs for lane closures, detour guide signs, intermediate information signs, and standard signs shall be erected at a height of 7 feet measured to the bottom of the sign, unless otherwise specified in the Plans. Signs shall be installed in a manner to resist damage or knock down in severe wind conditions and also to allow ease of relocation during stage changes.

The Contractor shall be responsible for the proper maintenance of all traffic control devices installed by him including proper location, installation, arrangement, and conditions as designated in the Contract Plans and Special Provisions, or required by the Engineer, for the duration of the Contract. The Contractor shall provide the necessary manpower, vehicles, equipment, and supplies of extra traffic control devices to adequately fulfill this responsibility. As a minimum, the Contractor shall have a Worksite Traffic Supervisor who will be responsible for initiating, installing and maintaining all traffic control devices as described in this Section and in the plans. The Worksite Traffic Supervisor shall have at least one year of experience directly related to worksite traffic control in a supervisory or responsible capacity and shall be certified by the American Traffic Safety Services Association Worksite Traffic Supervisor Certification Program or an equal approved by the Engineer. Approved alternate Worksite Traffic Supervisors may be used when necessary.

The Worksite Traffic Supervisor shall be available on a 24-hour per day basis and shall review the project on a day to day basis as well as being involved in all changes to traffic control. The Worksite Traffic Supervisor shall have access to all equipment and materials needed to maintain traffic control and handle traffic related situations. The Worksite Traffic Supervisor shall ensure that routine deficiencies are corrected within the time limit specified in Article 701.01(b)(2). This individual shall be accessible to the Engineer by a pager and cellular telephone. In addition, the Contractor shall provide the Engineer the names and telephone numbers of two individuals who will be available 24-hours per day, 7 days per week to respond to calls from the Engineer to correct traffic control deficiencies during those periods of time when the Worksite Traffic Supervisor cannot be reached.

All barrier delineators including those mounted on guardrail, whether existing or installed under this Contract, shall be kept clean for optimal visibility. Barrier delineators shall be oriented so as to be visible to motorists in the traffic lanes.

Revised 09/10/2007

(b) Placement of Barricades. All barricades shall conform to the requirements of Article 701.03 (a) and shall be placed in accordance with the Maintenance of Traffic Plans and the MUTCD.

The Contractor will not be permitted to erect, change or remove any barricades or barricade systems without prior approval of the Engineer. The Contractor will be required to leave and maintain all traffic control devices in place until all construction operations have been completed in each stage shown in the Contract Plans. The Contractor shall schedule and conduct his operations so that full access is provided at all interchanges, unless otherwise directed by the Engineer. The Contractor shall arrange and manipulate barricade placement and schedule construction operations to permit continuous operation of all lanes designated as open to traffic, unless otherwise directed by the Engineer.

Minor modifications of barricade placement at entrance and exit ramps and at runarounds will be allowed; however, such modifications shall be approved by the Engineer. Barricade placement in connection with such modifications must be consistent with all advance guide or detour signs.

Placement of all barricades shall proceed in the direction of traffic flow. Removal shall proceed toward oncoming traffic. A shadow vehicle equipped with a Truck Mounted Attenuator in accordance with Article 701.03(j) will be required whenever markings are being applied or a moving lane closure is being used.

The height of the barricades shall not be less than 3 feet above pavement or shoulder elevation. Barricades that must be placed in excavated or “below-grade” areas shall be equipped with leg extensions to raise the top bar to this minimum height. The cost for furnishing leg extensions where necessary shall be considered as included in the Contract lump sum price for Maintenance of Traffic and no additional compensation will be allowed.

All barricades shall be kept clean for maximum visibility. Barricades shall be cleaned at least weekly. The Engineer shall be notified of the barricade cleaning schedule.

(c) Placement of Cones. All traffic cones shall conform to the requirements of Article 701.03 (b). When and where allowed, the traffic cones shall be placed in accordance with the Maintenance of Traffic Plans.

Paragraphs 2, 3, and 4 of Article 701.06(b) shall also govern the placement of cones.

When dictated by wind or traffic conditions, cones shall be “doubled” or otherwise satisfactorily weighted at their bases to prevent their being blown into the path of vehicles in adjacent open lanes. Placing tires over cones for added stability will not be permitted. If the Contractor is unable to successfully prevent the migration of cones into live traffic lanes, and when so directed by the Engineer, their use shall be discontinued and weighted barricades used in their place.

Revised 09/10/2007

(d) Construction Traffic Signs. All signs shall conform to the requirements of Article 701.03(d) and shall be placed in accordance with the Maintenance of Traffic Plans and the MUTCD.

The Contractor shall be required to cover traffic sign legends which are inconsistent with intended traffic flow patterns. Each cover shall be a blank 1/4" plywood panel bolted to the sign face in such a manner so as to cover the inconsistent message.

All signs shall be kept clean for maximum visibility. Signs shall be cleaned at least weekly. The Engineer shall be notified of the sign cleaning schedule.

All diamond-shaped construction warning signs used on mainline, crossroads and ramps shall be fluorescent orange in color.

(e) Warning Lights. All warning lights shall conform to the requirements of Article 701.03 (e). Barricades and signs will be equipped with warning lights as required by the Maintenance of Traffic Plans and the MUTCD.

All lights shall be kept clean for maximum visibility. Lights shall be cleaned at least weekly. The Engineer shall be notified of the light cleaning schedule.

701.07 Maintenance of Traffic on Crossroads. Maintenance of traffic and lane closures on crossroads shall be in accordance with the latest edition of the MUTCD.

Prior to commencing any work on, adjacent to, or over any crossing roadway, the Contractor shall contact the appropriate agency and shall secure all required permits, as determined by such agency. The Contractor shall supply the Engineer with copies of all permits. Costs incurred in connection therewith will not be paid for separately, but will be considered as included in the Contract lump sum price for Traffic Control and Protection (Special).

When a lane closure is necessary, the Contractor shall notify the agency having jurisdiction at least 48 hours in advance. The Contractor shall furnish, erect and maintain all barricades, cones, temporary pavement markings, traffic control signs and all other fixtures and devices which may be required for the safe movement of traffic on the crossroads.

701.08 Contractor Vehicular and Pedestrian Movements. Except as provided in Article 701.06 (b), the Contractor’s vehicles shall move with and not across or against the flow of traffic. These vehicles will not be permitted to make U-turns or cross the median at any location and all vehicles will be required to use local exits and local streets to reverse direction except when both median lanes are closed to traffic. U-turns will be permitted at the existing crossovers shown in the Contract Plans only with the prior approval of the Engineer and subject to the conditions or constraints concomitant to such approval.

Vehicles shall enter or leave work areas in a manner which will not be hazardous to, or interfere with, normal Tollway traffic. Vehicles shall not park or stop except within designated work areas.

Revised 09/10/2007

Parking of personal vehicles within the right-of-way will not be permitted except when specific areas are designated by the Engineer. The Contractor's personnel will be prohibited from crossing operational lanes on foot. All pedestrian movement on the Tollway will be limited to within barricaded work areas. Failure by the Contractor's personnel to comply with these requirements will be considered non-compliance with the Maintenance of Traffic Specifications and shall render the Contractor subject to the applicable penalty cited in Article 701.01 (b).

701.09 Temporary Concrete Barrier. When the Contractor is required to pick-up or deliver precast concrete barrier sections from or to the Tollway's storage facilities, the Contractor will be required to install and maintain lane and/or shoulder closures and advance warning signs, and to furnish flaggers for the safe ingress and egress of vehicles transporting the barrier sections at both the storage site and the construction site. Furnishing such traffic control devices together with their removal, and furnishing flaggers in connection therewith shall be considered as included in the Contract unit price for Temporary Concrete Barrier as provided in Section 704.

The Contractor shall have and maintain appropriate equipment to be able to adjust and/or relocate temporary barrier sections in an emergency situation as provided in Section 704.

In the event any temporary concrete barrier sections are damaged, dislodged, and/or misaligned by traffic or by the Contractor's operations, the Contractor's forces shall begin the necessary operations for replacement and/or realignment of such sections within 30 minutes after notification by the Engineer, at no additional cost to the Department. Failure by the Contractor to comply with this requirement will be grounds for assessment of maintenance of traffic fine in accordance with the provisions of Article 701.01 (b)(2).

701.10 Bridge Repair Operations. During bridge repair operations, any work to be done over operational traffic lanes shall be done over only one lane at a time, with that lane being closed to traffic.

The Contractor will be required to coordinate such repair operations with the construction staging shown in the Maintenance of Traffic Plans.

Impact Attenuators, Temporary shall be in place prior to placing Temporary Concrete Barrier sections for bridge construction as shown in the Plans. Temporary Concrete Barrier sections must be in place prior to parapet removal and may not be removed until all bridge widening and other repair work is complete. When removal is permitted, the Temporary Concrete Barrier sections shall be completely removed prior to removal of the Impact Attenuators, Temporary.

When any bridge repair or construction operation or feature is likely to cause the vertical clearance over any operational traffic lane(s) to be reduced, the Contractor shall contact both the Engineer and the Tollway not less than 10 working days prior to the start of such construction for permission and instructions with respect to signing and Maintenance of Traffic requirements. The cost therefore shall be considered as included in the Contract lump sum price for Traffic Control and Protection (Special).

Revised 09/10/2007

701.11 Bridge Painting Operations. Any bridge painting to be done over operational traffic lanes shall be done one lane at a time, with that lane being closed to traffic in accordance with the procedures specified herein as may be modified by the Special Provisions.

The Contractor will be required to coordinate such painting operations with the construction staging shown in the Maintenance of Traffic Plans.

701.12 Holiday Periods. No work which will require movement of vehicles to and from the work site or which will otherwise interfere with Tollway traffic will be allowed during the following holiday periods without specific written authorization from the Tollway:

- Easter Weekend - 12:00 Noon Thursday through 9:00 A.M. Monday
- Memorial Day Weekend - 12:00 Noon Friday through 9:00 A.M. Tuesday
- Independence Day - as specified in the Special Provisions
- Labor Day Weekend - 12:00 Noon Friday through 9:00 A.M. Tuesday
- Thanksgiving Weekend -12:00 Noon Wednesday through 9:00 A.M. Monday
- Christmas-New Year's Day period - as specified in the Special Provisions

701.13 Storage of Equipment and Materials. During working hours, all vehicles and/or non-operating equipment and material stockpiles which are parked or stored for 2 hours or less shall be located at least 8 feet from the edge of the nearest moving traffic lane.

During non-working hours, or during working hours for periods of more than 2 hours, all vehicles and/or non-operating equipment and material stockpiles shall be parked or stored a minimum of 30 feet from the edge of the nearest traffic lane or shall be located behind man-made or natural barriers which in the opinion of the Engineer serve to fully protect the storage area and not constitute a hazard to motorists. Temporary concrete barrier sections which are installed in conjunction with lane closures or as protection for work areas will be considered an acceptable means of protection of storage areas, subject to approval of the Engineer.

When adequate right-of-way does not exist to accommodate this requirement, and when in the opinion of the Engineer no practical alternative exists, the storage area may be located a minimum of 15 feet from the edge of the nearest traffic lane and shall be delineated with barricades and flashing lights at no additional cost to the Department. The Contractor shall protect the stored materials from errant vehicles with an approved means of protection also at no additional cost to the Department.

With the exception of the special condition with respect to 2 hour periods, no parked Contractor vehicles, non-operating equipment, or material stockpiles will be allowed to remain closer than 15 feet to any operational traffic lane under any circumstances. Failure by the Contractor to comply with these requirements will be considered non-compliance with the Maintenance of Traffic Specifications and shall render the Contractor subject to the applicable penalty cited in Article 701.01 (b)

701.14 Work Above Active Roadways. Procedures to enable erection of any items of work above roadways with vehicular and/or pedestrian traffic shall be subject to the provisions of Articles 733.05 (b) of the Tollway Supplemental Specifications. The Contractor shall submit to the Engineer the erection and maintenance of traffic methods he proposes to use.

Revised 09/10/2007

Along with erection drawings, the Contractor shall submit for the Engineer's and Tollway's approval a detailed traffic control plan for the erection period identifying the number of lanes involved, the type of erection equipment used, etc. The following minimum requirements shall be complied with by the Contractor.

- Any erection of beams/girders over a Tollway road shall require a complete closure to traffic, regardless of location or time of day.
- The Contractor shall erect beams/girders only between the hours of 12:01 A.M. and 5:00 A.M. Monday through Sunday. Forty-eight (48) hours advance written notice to the Tollway, together with the Engineer's written approval, will be required prior to erection of any beam/girder.

- The maximum allowable time limit for a full closure on a Tollway road shall be fifteen (15) minutes, ten (10) for sign truss erection.

- The Contractor shall not reopen lanes below newly erected members until the members are securely in place. In the event the full-width tollway closure exceeds the allowable time period, the Contractor will be subject to a penalty cited in Article 701.01(b)(1) per minute for any part of a minute exceeding the allowable time.

Method of Measurement and Basis of Payment.

Delete all paragraphs. Add the following paragraphs:

The traffic control and protection required under this special provision will not be measured for payment.

All cost incurred by maintenance of traffic within the limits as shown on the contract plans, unless noted and paid for elsewhere, are included in the contract LUMP SUM bid price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Earth Excavation (Special)

This work shall consist of the excavation of bench cuts within the existing embankment as detailed and shown in the plans or directed by the Engineer. The bench cuts into the existing embankment shall not exceed two (2) feet in depth. This work shall be according to Section 202 of the Standard Specifications.

Revised 09/10/2007

Driven soldier pile retaining wall
Effective: November 13, 2002 Revised: February 2, 2007

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 (Fb), 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.

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. 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.

Added 09/10/2007

(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 ±1 in. (±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 (Fb) stated elsewhere in this Special Provision. The Contractor shall be responsible for the successful performance of the lagging system until the concrete facing is installed. When the nominal timber lagging thickness(s) and allowable stress are specified on the plans, the timber shall be rough cut or surfaced and 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.

Added 09/10/2007