



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

April/14/2014

SUBJECT: FAU Routes 8012 (Wabash Ave)
Project ACNHPP-ACHPP 8012 (014)
Section 21 (W-3, TS-1, RS-7) Sangamon County
Contract No. 72890
Item No. 134, April 25, 2014 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 Schedule of Prices.
2. Revised Plan Sheet (1-7), 11, 13, (16-17), (24-26), 27A, (68-72), 75, (79-83), 87, (89-90), (138-139), (141-142), 193, (201-202), 207, 243, 354, 364, (484-485), (596-598).
3. Added Page (679 A) to the Plans.
4. Revised Table of Contents Page IV
5. Revised Pages (52-56) to the Special Provisions.
6. Added Pages (173-175) to the Special Provisions.

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,

John D. Baranzelli, P.E.
Acting Engineer of Design and Environment

A handwritten signature in cursive script, appearing to read 'Ted B. Walschleger', followed by the initials 'P.E.'.

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

cc: Roger Driskell, Region 4, District 6; Tim Kell; D. Carl Puzey Estimates

HM/kp

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON- -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
ACNHPP-ACHPP-8012/014/

Route
FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
XZ054500	ROCK FILL (SPECIAL)	CU YD	1,627.000				
X0322936	REMOV EX FLAR END SEC	EACH	3.000				
X0324455	DRILL/SET SOLD P SOIL	CU FT	3,872.000				
X0324752	STORM SEWER FILLED	CU YD	8.000				
X0326820	INLETS SPL TE 4X4	EACH	19.000				
*REV X4401198	HMA SURF REM VAR DP	SQ YD	94,172.000				
X4402020	CONC MEDIAN SURF REM	SQ FT	436.000				
X5426342	PRC FL DB ES EQ RS 42	EACH	1.000				
X5426348	PRC FL DB ES EQ RS 48	EACH	1.000				
X6020074	INLETS TA T3V F&G	EACH	8.000				
X6020075	INLETS TB T3V F&G	EACH	9.000				
X6020084	MANHOLE SPECIAL	EACH	1.000				
X6024200	MAN TA 6D T1F CL SPL	EACH	1.000				
X6060048	COMB CC&G TB6.18 SPL	FOOT	460.000				
X6060052	COMB CC&G TB6.24 SPL	FOOT	142.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X6060500	CORRUGATED MED REM	SQ FT	633.000				
X6061005	CONC CURB TB SPL	FOOT	28.000				
X6061460	PAVED DITCH SPEC	FOOT	20.000				
X6061902	CONC MED TSM SPL	SQ FT	16,692.000				
*REV X7200105	SIGN PANEL T1 SPL	SQ FT	977.000				
X7200205	SIGN PANEL T2 SPL	SQ FT	243.000				
X7240110	REMOV SN PN ASY TA SP	EACH	67.000				
X7240200	REMOV SN PN ASY TB SP	EACH	33.000				
X8410102	TEMP LIGHTING SYSTEM	L SUM	1.000				
X8950100	RELOC EX MASTER CONTR	EACH	1.000				
Z0004910	HMA F PATCH (H M)	TON	140.000				
Z0007118	UNTREATED TIMBER LAG	SQ FT	3,225.000				
Z0010688	CAMERA MOUNT ASSEMBLY	EACH	25.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0015802	PLUG EX DK DRAINS	EACH	40.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
Z0022800	FENCE REMOVAL	FOOT	1,247.000				
Z0023500	FILL EXIST CULVERTS	CU YD	77.000				
Z0026402	FUR SOLDIER PILES HP	FOOT	1,105.000				
Z0033072	VIDEO VEH DET SYS	EACH	7.000				
Z0046304	P UNDR FOR STRUCT 4	FOOT	760.000				
Z0049799	PROT RESET SURVEY MRK	EACH	5.000				
*REV Z0056608	STORM SEW WM REQ 12	FOOT	3,407.000				
Z0056610	STORM SEW WM REQ 15	FOOT	2,317.000				
Z0056612	STORM SEW WM REQ 18	FOOT	2,661.000				
Z0056616	STORM SEW WM REQ 24	FOOT	3,123.000				
Z0056620	STORM SEW WM REQ 30	FOOT	1,364.000				
Z0056622	STORM SEW WM REQ 36	FOOT	504.000				
Z0056624	STORM SEW WM REQ 42	FOOT	54.000				
Z0056626	STORM SEW WM REQ 48	FOOT	3,324.000				
Z0056630	STORM SEW WM REQ 60	FOOT	462.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON- -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
Z0056631	SS WM REQ EQRS 24	FOOT	62.000				
Z0056639	SS WM REQ EQRS 48	FOOT	32.000				
*ADD Z0057000	SAN SEW 10	FOOT	190.000				
Z0070202	SURVEY MARKER VAULT	EACH	5.000				
Z0076600	TRAINEES	HOUR	3,000.000		0.800		2,400.000
Z0076604	TRAINEES TPG	HOUR	3,000.000		15.000		45,000.000
20100110	TREE REMOV 6-15	UNIT	246.000				
20100210	TREE REMOV OVER 15	UNIT	169.000				
20200100	EARTH EXCAVATION	CU YD	36,043.000				
*REV 20800150	TRENCH BACKFILL	CU YD	9,246.000				
21101615	TOPSOIL F & P 4	SQ YD	87,240.000				
25000200	SEEDING CL 2	ACRE	20.100				
25000400	NITROGEN FERT NUTR	POUND	1,806.000				
25000500	PHOSPHORUS FERT NUTR	POUND	1,806.000				
25000600	POTASSIUM FERT NUTR	POUND	1,806.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
25100115	MULCH METHOD 2	ACRE	20.100				
28000250	TEMP EROS CONTR SEED	POUND	2,007.000				
28000305	TEMP DITCH CHECKS	FOOT	10.000				
28000315	AGG DITCH CHECKS	TON	164.000				
28000400	PERIMETER EROS BAR	FOOT	2,011.000				
28000500	INLET & PIPE PROTECT	EACH	162.000				
28100705	STONE DUMP RIP CL A3	SQ YD	1,293.000				
28100707	STONE DUMP RIP CL A4	SQ YD	643.000				
28200200	FILTER FABRIC	SQ YD	1,936.000				
*REV 31100700	SUB GRAN MAT A 8	SQ YD	82,194.000				
*REV 35101800	AGG BASE CSE B 6	SQ YD	433.000				
*REV 35501312	HMA BASE CSE 7	SQ YD	17,964.000				
35501318	HMA BASE CSE 8 1/2	SQ YD	44,375.000				
*REV 35650200	BASE CSE WID 7	SQ YD	368.000				
35650352	BASE CSE WID 8.5	SQ YD	6,810.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
40201000	AGGREGATE-TEMP ACCESS	TON	1,800.000				
40600200	BIT MATLS PR CT	TON	126.000				
*REV 40600300	AGG PR CT	TON	659.000				
40600837	P LEV BIND MM N70	TON	13,437.000				
40600895	CONSTRUC TEST STRIP	EACH	3.000				
40600982	HMA SURF REM BUTT JT	SQ YD	723.000				
40600985	PCC SURF REM BUTT JT	SQ YD	74.000				
40600990	TEMPORARY RAMP	SQ YD	6,863.000				
40603085	HMA BC IL-19.0 N70	TON	4,831.000				
*REV 40603540	P HMA SC "D" N70	TON	18,495.000				
*REV 40800050	INCIDENTAL HMA SURF	TON	219.000				
42001300	PROTECTIVE COAT	SQ YD	8,689.000				
*REV 42300400	PCC DRIVEWAY PAVT 8	SQ YD	2,078.000				
42400100	PC CONC SIDEWALK 4	SQ FT	104,604.000				
42400410	PC CONC SIDEWALK 8	SQ FT	5,112.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*REV 42400800	DETECTABLE WARNINGS	SQ FT	1,227.000				
44000100	PAVEMENT REM	SQ YD	11,278.000				
*REV 44000200	DRIVE PAVEMENT REM	SQ YD	2,593.000				
*REV 44000500	COMB CURB GUTTER REM	FOOT	6,966.000				
44000600	SIDEWALK REM	SQ FT	10,173.000				
44003100	MEDIAN REMOVAL	SQ FT	16,360.000				
44004000	PAVED DITCH REMOVAL	FOOT	78.000				
44004250	PAVED SHLD REMOVAL	SQ YD	12,448.000				
44200140	PAVT PATCH T1 12	SQ YD	15.000				
44200144	PAVT PATCH T2 12	SQ YD	449.000				
44200148	PAVT PATCH T3 12	SQ YD	515.000				
44200150	PAVT PATCH T4 12	SQ YD	428.000				
44300200	STRIP REF CR CON TR	FOOT	41,371.000				
*REV 48101200	AGGREGATE SHLDS B	TON	387.000				
*REV 48203029	HMA SHOULDERS 8	SQ YD	18,625.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON- -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
50100300	REM EXIST STRUCT N1	EACH	1.000				
50100400	REM EXIST STRUCT N2	EACH	1.000				
50100500	REM EXIST STRUCT N3	EACH	1.000				
50104400	CONC HDWL REM	EACH	9.000				
50104650	SLOPE WALL REMOV	SQ YD	1,270.000				
50105220	PIPE CULVERT REMOV	FOOT	3,851.000				
50200100	STRUCTURE EXCAVATION	CU YD	505.000				
50201101	COFFERDAM TYP 1 LOC 1	EACH	1.000				
50300225	CONC STRUCT	CU YD	174.100				
50500505	STUD SHEAR CONNECTORS	EACH	850.000				
50800105	REINFORCEMENT BARS	POUND	847.000				
50800205	REINF BARS, EPOXY CTD	POUND	27,250.000				
51100100	SLOPE WALL 4	SQ YD	217.000				
54002060	EXPAN BOLTS 3/4 X 12	EACH	20.000				
542A0220	P CUL CL A 1 15	FOOT	166.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
542A0223	P CUL CL A 1 18	FOOT	488.000				
542A0229	P CUL CL A 1 24	FOOT	238.000				
542A0235	P CUL CL A 1 30	FOOT	272.000				
542A0241	P CUL CL A 1 36	FOOT	108.000				
542D0220	P CUL CL D 1 15	FOOT	84.000				
542D0223	P CUL CL D 1 18	FOOT	88.000				
5421C036	P CUL CL C 1 36 TEMP	FOOT	67.000				
54213657	PRC FLAR END SEC 12	EACH	4.000				
54213660	PRC FLAR END SEC 15	EACH	2.000				
54213663	PRC FLAR END SEC 18	EACH	4.000				
54213669	PRC FLAR END SEC 24	EACH	11.000				
54213675	PRC FLAR END SEC 30	EACH	4.000				
54213681	PRC FLAR END SEC 36	EACH	2.000				
54213705	PRC FLAR END SEC 60	EACH	1.000				
54215547	MET END SEC 12	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
54215550	MET END SEC 15	EACH	10.000				
54215553	MET END SEC 18	EACH	4.000				
54248510	CONCRETE COLLAR	CU YD	0.600				
550A0500	STORM SEW CL A 2 60	FOOT	990.000				
55100500	STORM SEWER REM 12	FOOT	161.000				
55100700	STORM SEWER REM 15	FOOT	110.000				
55100900	STORM SEWER REM 18	FOOT	72.000				
55101200	STORM SEWER REM 24	FOOT	293.000				
55101300	STORM SEWER REM 27	FOOT	448.000				
55101600	STORM SEWER REM 36	FOOT	84.000				
59100100	GEOCOMPOSITE WALL DR	SQ YD	275.000				
59300100	CONTR LOW-STRENG MATL	CU YD	1,126.000				
60100060	CONC HDWL FOR P DRAIN	EACH	4.000				
60100945	PIPE DRAINS 12	FOOT	16.000				
60107600	PIPE UNDERDRAINS 4	FOOT	1,564.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60108100	PIPE UNDERDRAIN 4 SP	FOOT	82.000				
60218400	MAN TA 4 DIA T1F CL	EACH	10.000				
60218500	MAN TA 4 DIA T3F&G	EACH	3.000				
60219000	MAN TA 4 DIA T8G	EACH	9.000				
60219200	MAN TA 4 DIA T10F&G	EACH	1.000				
60219570	MAN TA 4 DIA T3V F&G	EACH	15.000				
60221100	MAN TA 5 DIA T1F CL	EACH	5.000				
*REV 60221700	MAN TA 5 DIA T8G	EACH	9.000				
60222270	MAN TA 5 DIA T3V F&G	EACH	17.000				
60222805	MAN TA 5D M IN 604106	EACH	2.000				
60223800	MAN TA 6 DIA T1F CL	EACH	1.000				
60224005	MAN TA 6 DIA T8G	EACH	1.000				
60224120	MAN TA 6 DIA T3V F&G	EACH	3.000				
60224129	MAN TA 7 DIA T3V F&G	EACH	4.000				
60224446	MAN TA 7 DIA T1F CL	EACH	8.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60224448	MAN TA 7 DIA T8G	EACH	1.000				
60224459	MAN TA 8 DIA T1F CL	EACH	4.000				
60224489	MAN TA 8 DIA T3V F&G	EACH	1.000				
60224490	MAN TA 9 DIA T3V F&G	EACH	1.000				
60224492	MAN TA 9D M IN 604106	EACH	2.000				
60235700	INLETS TA T3F&G	EACH	4.000				
60236200	INLETS TA T8G	EACH	32.000				
60236700	INLETS TA T10F&G	EACH	1.000				
60240215	INLETS TB T1F CL	EACH	2.000				
60240301	INLETS TB T8G	EACH	2.000				
60240305	INLETS TB T10F&G	EACH	1.000				
60240366	INLET TB M INL 604106	EACH	1.000				
60260100	INLETS ADJUST	EACH	3.000				
60300305	FR & LIDS ADJUST	EACH	63.000				
60500040	REMOV MANHOLES	EACH	7.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60500060	REMOV INLETS	EACH	10.000				
60600095	CLASS SI CONC OUTLET	CU YD	3.300				
60602800	CONC GUTTER TB	FOOT	321.000				
60603800	COMB CC&G TB6.12	FOOT	387.000				
*REV 60604400	COMB CC&G TB6.18	FOOT	7,241.000				
*REV 60605000	COMB CC&G TB6.24	FOOT	7,957.000				
60608600	COMB CC&G TM6.06	FOOT	642.000				
60609200	COMB CC&G TM6.12	FOOT	222.000				
60609800	COMB CC&G TM6.18	FOOT	42.000				
60610400	COMB CC&G TM6.24	FOOT	1,248.000				
60618300	CONC MEDIAN SURF 4	SQ FT	8,737.000				
60622400	CONC MED TSM6.06	SQ FT	4,063.000				
60622800	CONC MED TSM6.12	SQ FT	979.000				
61000115	TY E INLET BOX 610001	EACH	1.000				
63000001	SPBGR TY A 6FT POSTS	FOOT	675.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
63100045	TRAF BAR TERM T2	EACH	2.000				
63100085	TRAF BAR TERM T6	EACH	2.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	4.000				
66500105	WOV W FENCE 4	FOOT	128.000				
66600105	FUR ERECT ROW MARKERS	EACH	31.000				
66700205	PERM SURV MKRS T1	EACH	38.000				
66900200	NON SPL WASTE DISPOSL	CU YD	500.000				
66900450	SPL WASTE PLNS/REPORT	L SUM	1.000				
66900530	SOIL DISPOSAL ANALY	EACH	1.000				
67000400	ENGR FIELD OFFICE A	CAL MO	24.000				
67000600	ENGR FIELD LAB	CAL MO	24.000				
67100100	MOBILIZATION	L SUM	1.000				
70100450	TRAF CONT-PROT 701201	L SUM	1.000				
70100460	TRAF CONT-PROT 701306	L SUM	1.000				
70100500	TRAF CONT-PROT 701326	L SUM	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
70100600	TRAF CONT-PROT 701336	L SUM	1.000				
70100825	TRAF CONT-PROT 701456	L SUM	1.000				
70101830	TRAF CONT-PROT BLR 21	L SUM	1.000				
70101835	TRAF CONT-PROT BLR 22	L SUM	1.000				
70102620	TR CONT & PROT 701501	L SUM	1.000				
70102622	TR CONT & PROT 701502	L SUM	1.000				
70102632	TR CONT & PROT 701602	L SUM	1.000				
70102635	TR CONT & PROT 701701	L SUM	1.000				
70102640	TR CONT & PROT 701801	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	225.000				
70106800	CHANGEABLE MESSAGE SN	CAL MO	36.000				
70300100	SHORT TERM PAVT MKING	FOOT	43,880.000				
70300210	TEMP PVT MK LTR & SYM	SQ FT	10,864.000				
70300230	TEMP PVT MK LINE 5	FOOT	178,994.000				
70300240	TEMP PVT MK LINE 6	FOOT	57,082.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON- -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
70300250	TEMP PVT MK LINE 8	FOOT	9,188.000				
70300260	TEMP PVT MK LINE 12	FOOT	7,678.000				
70300280	TEMP PVT MK LINE 24	FOOT	3,248.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	21,349.000				
72000300	SIGN PANEL T3	SQ FT	481.000				
72700100	STR STL SIN SUP BA	POUND	3,362.000				
*REV 72800100	TELES STL SIN SUPPORT	FOOT	1,256.000				
73400100	CONC FOUNDATION	CU YD	4.000				
73700100	REM GR MT SIN SUPPORT	EACH	4.000				
73700200	REM CONC FDN-GR MT	EACH	4.000				
*REV 78000300	THPL PVT MK LINE 5	FOOT	80,386.000				
78000500	THPL PVT MK LINE 8	FOOT	4,729.000				
*REV 78000600	THPL PVT MK LINE 12	FOOT	3,327.000				
*REV 78001100	PT PVT MK LTRS & SYMB	SQ FT	1,188.000				
78001120	PAINT PVT MK LINE 5	FOOT	1,727.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
78001130	PAINT PVT MK LINE 6	FOOT	40.000				
78001150	PAINT PVT MK LINE 12	FOOT	301.000				
*REV 78004200	PREF PL PM TB INL L&S	SQ FT	4,854.000				
78004220	PREF PL PM TB INL L5	FOOT	7,193.000				
*REV 78004230	PREF PL PM TB INL L6	FOOT	28,249.000				
*REV 78004280	PREF PL PM TB INL L24	FOOT	1,606.000				
78100100	RAISED REFL PAVT MKR	EACH	1,505.000				
78200300	PRISMATIC CURB REFL	EACH	760.000				
78200410	GUARDRAIL MKR TYPE A	EACH	18.000				
78200520	BAR WALL MKR TYPE B	EACH	16.000				
78201000	TERMINAL MARKER - DA	EACH	4.000				
78300100	PAVT MARKING REMOVAL	SQ FT	17,816.000				
78300200	RAISED REF PVT MK REM	EACH	489.000				
80400100	ELECT SERV INSTALL	EACH	3.000				
80500100	SERV INSTALL TY A	EACH	7.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
81028340	UNDRGRD C PVC 1 1/2	FOOT	9,613.000				
81028350	UNDRGRD C PVC 2	FOOT	135.000				
81028360	UNDRGRD C PVC 2 1/2	FOOT	1,145.000				
81028370	UNDRGRD C PVC 3	FOOT	1,082.000				
81028380	UNDRGRD C PVC 3 1/2	FOOT	575.000				
81028390	UNDRGRD C PVC 4	FOOT	452.000				
81028760	UNDRGRD C CNC 2 1/2	FOOT	358.000				
81400100	HANDHOLE	EACH	38.000				
81400300	DBL HANDHOLE	EACH	6.000				
81500120	GULFBOX JUNCTION CC	EACH	26.000				
81500130	GULFBOX JUNCTION REM	EACH	7.000				
81603000	UD 2#8 #8G XLP USE 3/4	FOOT	5,828.000				
81702450	EC C XLP USE 3-1C 10	FOOT	4,509.000				
82102250	LUM SV HOR MT 250W	EACH	9.000				
82102400	LUM SV HOR MT 400W	EACH	2.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
82103400	LUM SV HOR MT PC 400W	EACH	21.000				
82500300	LT CONT PM 240V 30	EACH	1.000				
82500330	LT CONT PEDM 240V 60	EACH	2.000				
83003600	LT P A 45MH 15DA	EACH	9.000				
83004600	LT P A 50MH 15DA	EACH	2.000				
83600355	LP F M 15BC 8" X 6'	EACH	9.000				
83600357	LP F M 15BC 8" X 8'	EACH	2.000				
83800650	BKWY DEV COU SS SCR N	EACH	44.000				
84200500	REM LT UNIT SALV	EACH	12.000				
84200804	REM POLE FDN	EACH	12.000				
84500110	REMOV LIGHTING CONTR	EACH	1.000				
84500120	REMOV ELECT SERV INST	EACH	1.000				
84500130	REMOV LTG CONTR FDN	EACH	1.000				
85000200	MAIN EX TR SIG INSTAL	EACH	1.000				
85700200	FAC T4 CAB	EACH	6.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
85700300	FAC T5 CAB	EACH	1.000				
86200200	UNINTER POWER SUP STD	EACH	7.000				
86400100	TRANSCEIVER - FIB OPT	EACH	7.000				
87100020	FOCC62.5/125 MM12SM12	FOOT	12,621.000				
87300010	GROUND HH FR & COVER	EACH	3.000				
87301215	ELCBL C SIGNAL 14 2C	FOOT	806.000				
87301225	ELCBL C SIGNAL 14 3C	FOOT	3,671.000				
87301245	ELCBL C SIGNAL 14 5C	FOOT	11,435.000				
87301255	ELCBL C SIGNAL 14 7C	FOOT	9,497.000				
87301265	ELCBL C SIGNAL 14 9C	FOOT	2,756.000				
87301275	ELCBL C SIGNAL 14 12C	FOOT	1,416.000				
87301290	ELCBL C SIGNAL 18 3C	FOOT	6,536.000				
87301805	ELCBL C SERV 6 2C	FOOT	81.000				
87301815	ELCBL C SERV 6 3C	FOOT	131.000				
87301900	ELCBL C EGRDC 6 1C	FOOT	4,618.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
87502640	TS POST A 10	EACH	1.000				
87502680	TS POST A 14	EACH	8.000				
87502700	TS POST A 16	EACH	18.000				
87700190	S MAA & P 30	EACH	1.000				
87700330	S MAA & P 56	EACH	1.000				
87702910	STL COMB MAA&P 36	EACH	1.000				
87702920	STL COMB MAA&P 38	EACH	1.000				
87702950	STL COMB MAA&P 44	EACH	1.000				
87702960	STL COMB MAA&P 46	EACH	2.000				
87702980	STL COMB MAA&P 50	EACH	2.000				
87702985	STL COMB MAA&P 52	EACH	1.000				
87702990	STL COMB MAA&P 54	EACH	1.000				
87703010	STL COMB MAA&P 56	EACH	4.000				
87703020	STL COMB MAA&P 58	EACH	2.000				
87703030	STL COMB MAA&P 60	EACH	3.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
87703040	STL COMB MAA&P 62	EACH	1.000				
*REV 87704388	S C MAA&P DMA 34 & 36	EACH	1.000				
87704409	S C MAA&P DMA 36 & 36	EACH	1.000				
87800100	CONC FDN TY A	FOOT	81.000				
87800150	CONC FDN TY C	FOOT	25.000				
87800415	CONC FDN TY E 36D	FOOT	182.000				
87800420	CONC FDN TY E 42D	FOOT	237.000				
87900200	DRILL EX HANDHOLE	EACH	3.000				
88040070	SH P LED 1F 3S BM	EACH	8.000				
88040090	SH P LED 1F 3S MAM	EACH	43.000				
88040120	SH P LED 1F 4S MAM	EACH	19.000				
88040230	SH P LED 2F 3S BM	EACH	5.000				
88040250	SH P LED 2F 1-3 1-4BM	EACH	2.000				
88040317	SH PLED 3F1-31-41-5BM	EACH	11.000				
88040320	SH P LED 3F 1-4 2-5BM	EACH	4.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 72890

State Job # - C-96-057-09

County Name - SANGAMON- -

Code - 167 - -

District - 6 - -

Section Number - 21(W-3, TS-1, RS-7)

Project Number
 ACNHPP-ACHPP-8012/014/

Route
 FAU 8012

*REVISED: APRIL 15, 2014

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
88040332	SH P LED 3F 2-3 1-4BM	EACH	1.000				
88102825	PED SH P LED 1F BM CT	EACH	4.000				
88102845	PED SH P LED 2F BM CT	EACH	16.000				
88200100	TS BACKPLATE	EACH	138.000				
88800100	PED PUSH-BUTTON	EACH	34.000				
89000100	TEMP TR SIG INSTALL	EACH	7.000				
89502100	REBUILD EX SIG HEAD	EACH	1.000				
89502300	REM ELCBL FR CON	FOOT	7,998.000				
89502375	REMOV EX TS EQUIP	EACH	6.000				
89502380	REMOV EX HANDHOLE	EACH	30.000				
89502382	REMOV EX DBL HANDHOLE	EACH	6.000				
89502385	REMOV EX CONC FDN	EACH	50.000				

TRACKING THE USE OF PESTICIDES (BDE)..... 136
TRAINING SPECIAL PROVISIONS (BDE) 136
IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION
(TPG) 139
WARM MIX ASPHALT (BDE) 141
WEEKLY DBE TRUCKING REPORTS (BDE)..... 145
STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)..... 146
FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)..... 150
BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)..... 154
PROJECT LABOR AGREEMENT - QUARTERLY EMPLOYMENT REPORT 157
SANITARY SEWER 10"..... 172

Revise 04/17/2014

VIDEO VEHICLE DETECTION SYSTEM

Revised: January 1, 2008

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

Hardware: The sensor shall either incorporate four integrated imaging CCD arrays with optics, high-speed, color, image-processing hardware and a CPU bundled into a sealed enclosure, or shall incorporate a WDR imager bundled into a sealed enclosure with processing hardware located in the traffic signal cabinet. The environmental enclosure shall be waterproof and dust-tight to NEMA-4 specifications. The enclosure shall allow the sensor to operate satisfactorily over an ambient temperature range from -34 degrees C to +60 degrees C while exposed to precipitation as well as direct sunlight. The enclosure shall allow the image sensor horizon to be rotated during field installation. The enclosure shall include a provision at the rear of the enclosure for connection of the factory-fabricated power and communications cable. Input power to the environmental enclosure shall be either 110/220 VAC 60 Hz or 48 VDC (POE). A heater shall be at the front of the enclosure to prevent the formation of ice and condensation in cold weather, as well as to assure proper operation of the lens' iris mechanism. The heater shall not interfere with the operation of the image sensor electronics, and it shall not cause interference with the video signal. The enclosure shall be light-colored and shall include a sun shield to minimize solar heating and glare. The front edge of the sunshield shall protrude beyond the front edge of the environmental enclosure and shall include provision to divert water flow to the sides of the sunshield. The amount of overhang of the sunshield shall be adjustable to prevent direct sunlight from entering the lens or hitting the faceplate.

The sensor shall process a minimum of twenty detector zones placed anywhere in the field of view of the sensor. The sensor shall have the ability to produce digital streaming MPEG-4 video output. The video output shall have the ability to selectively show overlaid graphics indicating the current real-time detection state of each individual detector defined in the video. The sensor output color video shall be viewed with any compatible video-display device.

Sensor Hardware: As a minimum each image sensor shall produce images with a CCD sensing element with a horizontal resolution > 470 TVL NTSC. Images shall be output as video conforming to NTSC or PAL specifications and provide software MPEG-4 video compression. The sensor shall provide direct real-time iris and shutter speed control, be usable for video surveillance, provide an optical filter and appropriate electronic circuitry in the sensor to suppress "blooming" effects at night, and have gamma for the image sensor present at the factory to a value of 1.0.

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

Revised 04/17/2014

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

Detector features shall include:

- a. Count detection - outputs traffic volume statistics and generates traffic counts and occupancy.
- b. Presence detection - indicate presence of a vehicle, stopped vehicle, or vehicles traveling in the wrong direction.
- c. Dilemma Zone Detection – detect the presence of vehicles a specific distance from the intersection in order to extend green time
- d. Detector function combines - outputs of multiple detectors via Boolean logic functions.
- e. Label displays - information on the machine video output and passes input information to other detectors.
- f. Detector Station - collects and reports traffic data gathered over specified time intervals.
- g. Schedulers - define plans that can be used by other detectors to specify different parameters for each time-of-day plan.
- h. Contrast Loss detection - monitor the quality of the video image that the machine vision sensor is processing.

External Interfaces: The external interfaces to the sensor shall include an access point specifically to exchange detector state data with the cabinet interface devices.

Sensor Field Interface Equipment: An interface panel shall be provided for installation. The interface panel shall provide a terminal block for terminating power and wiring to the image sensor.

Supervisor Communications Port: There shall be an interface panel port to configure and provide general communications. The sensor shall use an RJ45 Ethernet connection to facilitate 10/100 Mbps communications via a network of rack cards to a remote or local PC client/server application. The communications port shall allow the user to update the embedded software with a new software release and interact with a PC client/server application for all of the various detection requests supported by the sensor.

Revised 04/17/2014

Interface Panel: The interface panel shall provide a dedicated interface between the machine vision sensor and a detector port master such as a card rack or Access Point. The real-time state of phase inputs shall be transmitted to the sensor. The sensor shall exchange input and output state data with the detector port master every 100 ms. A detector port master shall subsequently translate the detection states in an electrically compatible manner to a traffic signal controller:

- (1) The interface card immediately upon receipt of the state change shall apply single pin state outputs and each on or off pulse shall be guaranteed a minimum pulse width of 100 ms.

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

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

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

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

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

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

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

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

- a. View the video output of the sensor with either a standard or HDMI video monitor.
- b. The video output of the sensor shall be capable of selectively transmitting:
 - (1) Camera video only.
 - (2) Analog or digital video overlaid with the current real-time detection state of each detector.
 - (3) Individual detectors shall have the option of being hidden.
- c. View the associated output LED state on the detector port master:
 - (1) An LED shall be ON when its assigned detector output or signal controller phase input is on.
 - (2) An LED shall be OFF when its assigned detector or signal controller input is off.

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

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

Revised 04/17/2014

Speed Detection Performance: The sensor shall accurately measure average (arithmetic mean) speed of multiple vehicles with more than 98% accuracy under all operating conditions for approaching and departing traffic. The average speed measurement shall include more than 10 vehicles in the sample to ensure statistical significance. The sensor shall accurately measure individual vehicle speeds with more than 95% accuracy under all operating conditions for vehicles approaching the sensor (viewing the front end of vehicles), 90% accuracy for vehicles departing from the sensor (viewing the rear end of vehicles). These specifications shall apply to vehicles that travel through both the count and speed detector pair and shall not include partial detection situations created by lane changing maneuvers.

Sensor Electrical: The video output of the sensor shall be isolated from earth ground. All video connections from the sensor to the interface panel shall also be isolated from earth ground. The video output, communication, and power stages of the sensor shall include transient protection to prevent damage to the sensor due to voltage transients occurring on the cable leading from the machine vision sensor to other field terminations. Connections for video, communications and power shall be made to the image sensor via either a “three wires only” branch cable connection installed to the interface panel with compression blocks, or via a single CAT5e or CAT6 cable. The machine vision sensor shall have passed requirements for and received the CE mark. The power to the sensor shall be fused in the controller cabinet.

Auxiliary Equipment: The system shall be supplied with a color 10-inch monitor in the controller cabinet to display a camera field of view with detection areas overlaid. The input to the monitor shall be selectable from any of the cameras in the system. An Ethernet cable shall be supplied in the cabinet to allow for communications from the video detection system to a laptop computer.

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

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

Revised 04/17/2014

SANITARY SEWER 10”

This item will consist of furnishing and installing a section of sanitary sewer under Bunker Hill Road as shown in the plans.

Materials

A. Polyvinyl Chloride (PVC) Sewer Pipe

1. Polyvinyl Chloride (PVC) sewer pipe shall conform to ASTM D 3034, Type PSM. Minimum acceptable SDR shall be 35. The pipe shall be made of PVC plastic having a minimum cell classification of 12454-C, and shall have a minimum pipe stiffness of forty-six (46) lbs. per inch per inch.

B. Joints for Sanitary Sewers

1. Polyvinyl Chloride (PVC) Sewer Pipe joints shall be flexible elastomeric seals per ASTM D 3212.
Added 04/17/2014

C. Aggregate Material for Embedment (Bedding, Haunching and Initial Backfill shall be FA-5, CA-6, CA-9, CA-10 or CA-18.

Excavation and Bedding

- A. In accordance with Article 550.04.

Sewer Pipe Laying

- A. Laying of sewer pipe shall be accomplished to line and grade in the trench only after it has been dewatered and the foundation and/or bedding have been prepared. Mud, silt, gravel and other foreign material shall be kept out of the pipe and off the joining surface.
- B. All pipe laid shall be retained in position so as to maintain alignment and joint closure until sufficient backfill has been completed to adequately hold the pipe in place. All pipe shall be laid to conform to the prescribed line and grade shown on the Plans, with the limits that follow. At least three batter boards shall be maintained in position during all pipe laying operations, unless a laser beam is used.
- C. Variance from established line and grade shall not be greater than one thirty-second (1/32) of an inch per inch of pipe diameter and not to exceed one-half (1/2) inch, provided that any such variation does not result in a level or reverse sloping invert.
- D. The sewer pipe shall be laid up grade from point of connection on the existing sewer or from a designated starting point. The sewer pipe shall be installed with the bell end forward or upgrade, unless approved otherwise. When pipe laying is not in progress the forward end of the pipe shall be kept tightly closed with an approved temporary plug.

Added 04/17/2014

Pipe Jointing

- A. Joints shall be made by means of a flexible gasket which shall be fabricated and installed in accordance with the specifications that follows. When gaskets are placed on the pipe in the field, the surfaces on which the gasket seats must be thoroughly cleaned. The gasket, lubricated according to the manufacturer's instructions, is placed on the pipe.
- B. Pipe handling after the gasket has been affixed shall be carefully controlled to avoid disturbing the gasket and knocking it out of position or loading it with dirt or other foreign material. Any gaskets so disturbed shall be removed and replaced, cleaned and re-lubricated if required, before the jointing is attempted.
- C. Care shall be taken to properly align the pipe before joints are entirely forced home. During insertion of the tongue or spigot, the pipe shall be partially supported by hand, sling or crane to minimize unequal lateral pressure on the gasket and to maintain concentricity until the gasket is properly positioned.
- D. Sufficient pressure shall be applied in making the joint to assure that it is home, as described in the installation instructions provided by the pipe manufacturer. Sufficient restraint shall be applied to the line to assure that joints once home are held so, until fill material under and alongside the pipe has been sufficiently compacted. At the end of the work day, the last pipe laid shall be blocked in an effective way to prevent creep. The pipe shall be closed with a suitable "night cap".

Backfilling:

- A. Backfill in accordance with Article 550.07.

Testing Technique

- A. All Testing Methods: All wyes, tees and stubs shall be plugged with flexible jointed caps, or acceptable alternate, securely fastened to withstand the internal test pressure. Such plugs or caps shall be readily removable
 1. Air Testing Method Procedures:
 - a. The section of sewer to be tested shall have been trench backfilled and cleared. Pneumatic plugs (having a sealing length equal to or greater than the diameter of the pipe to be tested) placed in both ends of the pipe to be tested shall be inflated to twenty-five (25) psig. The sealed sewer pipe shall then be pressurized to four (4) psig above the average back pressure of ground water over the sewer pipe and the air pressure allowed stabilizing for at least two minutes.
 - b. After the stabilization period the line shall be pressurized to 3.5 psig and the time in minutes measured for pressure to drop to 2.5 psig. If ground water is present, the air pressure within shall be increased to 3.5 psig above the level of the ground water and the drop of one (1) pound psig of air pressure measured in minutes.
 - c. Air testing techniques shall be in accordance with the latest ASTM F1417. Air leakage test results shall not be less than the time per inch of pipe diameter per length of sewer pipe as specified in the standard.

Added 04/17/2014

- d. Where the pipe fails to meet or exceed the minimum test requirements, the CONTRACTOR shall remedy the failure such that passing tests can be achieved.

2. Deflection Testing for Flexible Thermoplastic Pipe:

- a. The pipe line shall be tested for excess deflecting by pulling a "go - no go" mandrel through the pipe from manhole to manhole. The mandrel shall be sized in accordance with Article 550.08.
- b. Wherever possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines.
- c. Where deflection is found to be in excess of Allowable Testing Limits, the CONTRACTOR shall excavate to the point of excess deflection and carefully compact around the point where excess deflection was found. The line shall then be retested for deflection. However, should after the initial testing and deflected pipe fail to return to the original size (inside diameter) the line shall be replaced.

End Plugs

- A. Following testing, the pipe ends shall be capped with a plug of the same material as the pipe and shall be secured in place with a joint comparable to the main line joint so that the pipe ends are permanently sealed from infiltration by water or debris.

This work will be paid for at the contract unit price for SANITARY SEWER 10" which price shall include all labor, equipment, materials, and testing necessary to complete the work as specified to the satisfaction of the engineer.

Added 04/17/2014