

# **BID PROPOSAL INSTRUCTIONS**

**ABOUT IDOT PROPOSALS:** All proposals are potential bidding proposals. Each proposal contains all certifications and affidavits, a proposal signature sheet and a proposal bid bond.

## **PREQUALIFICATION**

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

## **WHO CAN BID ?**

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

## **REQUESTS FOR AUTHORIZATION TO BID**

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

## **WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?**

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

## **ABOUT AUTHORIZATION TO BID**

Firms that have not received an Authorization to Bid or Not For Bid Report within a reasonable time of complete and correct original document submittal should contact the Department as to the status. Firms unsure as to authorization status should call the Prequalification Section of the Bureau of Construction at the number listed at the end of these instructions.

## **ADDENDA AND REVISIONS**

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

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

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

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

Addenda questions may be directed to the Contracts Office at (217)782-7806 or [DOT.D&Econtracts@illinois.gov](mailto:DOT.D&Econtracts@illinois.gov)

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

## **STANDARD GUIDELINES FOR SUBMITTING BIDS**

- All pages should be single sided.
- Use the Cover Page that is provided in the Bid Proposal (posted on the IDOT Web Site) as the first page of your submitted bid. It has the item number in large bold type in the upper left-hand corner and lines provided for your company name and address in the upper right-hand corner.
- Do not use report covers, presentation folders or special bindings and do not staple multiple times on left side like a book. Use only 1 staple in the upper left hand corner. Make sure all elements of your bid are stapled together including the bid bond or guaranty check (if required).
- Do not include any certificates of eligibility, your authorization to bid, Addendum Letters or affidavit of availability.
- Do not include the Subcontractor Documentation with your bid (pages i – iii and pages a – g). This documentation is required only if you are awarded the project.
- Use the envelope cover sheet (provided with the proposal) as the cover for the proposal envelope.
- Do not rely on overnight services to deliver your proposal prior to 10 AM on letting day. It will not be read if it is delivered after 10 AM.
- Do not submit your Substance Abuse Prevention Program (SAPP) with your bid. If you are awarded the contract this form is to be submitted to the district engineer at the pre-construction conference.

## **BID SUBMITTAL CHECKLIST**

- Cover page** (the sheet that has the item number on it) – This should be the first page of your bid proposal, **followed by your bid (the Schedule of Prices/Pay Items)**. If you are using special software or CBID to generate your schedule of prices, do not include the blank pages of the schedule of prices that came with the proposal package.
- Page 4 (Item 9)** – Check “YES” if you will use a subcontractor(s) with an annual value over \$50,000. Include the subcontractor(s) name, address, general type of work to be performed and the dollar amount. If you will use subcontractor(s) but are uncertain who or the dollar amount; check “YES” but leave the lines blank.
- After page 4** – Insert the following documents: The **Illinois Office Affidavit** (Not applicable to federally funded projects) followed by Cost Adjustments for Steel, Bituminous and Fuel (if applicable) and the Contractor Letter of Assent (if applicable). The general rule should be, if you don’t know where it goes, put it after page 4.
- Page 10 (Paragraph J)** – Check “YES” or “NO” whether your company has any business in Iran.
- Page 10 (Paragraph K)** – (Not applicable to federally funded projects) List the name of the apprenticeship and training program sponsor holding the certificate of registration from the US Department of Labor. If no applicable program exists, please indicate the work/job category **Your bid will not be read if this is not completed.** Do not include certificates with your bid. Keep the certificates in your office in case they are requested by IDOT.
- Page 11 (Paragraph L)** – A copy of your State Board of Elections certificate of registration is no longer required with your bid.
- Page 11 (Paragraph M)** – Indicate if your company has hired a lobbyist in connection with the job for which you are submitting the bid proposal.
- Page 12 (Paragraph C)** – This is a work sheet to determine if a completed Form A is required. It is not part of the form and you do not need to make copies for each completed Form A.
- Pages 14-17 (Form A)** – One Form A (4 pages) is required for each applicable person in your company. Copies of the forms can be used and only need to be changed when the information changes. The certification signature and date must be original for each letting. **Do not staple the forms together.** If you answered “NO” to all of the questions in Paragraph C (page 12), complete the first section (page 14) with your company information and then sign and date the Not Applicable statement on page 17.
- Page 18 (Form B)** - If you check “YES” to having other current or pending contracts it is acceptable to use the phrase, “See Affidavit of Availability on file”. **Ownership Certification** (at the bottom of the page) - Check N/A if the Form A(s) you submitted accounts for 100 percent of the company ownership. Check YES if any percentage of ownership falls outside of the parameters that require reporting on the Form A. Checking NO indicates that the Form A(s) you submitted is not correct and you will be required to submit a revised Form A.
- Page 20 (Workforce Projection)** – Be sure to include the Duration of the Project. It is acceptable to use the phrase “Per Contract Specifications”.

**Proposal Bid Bond** – (Insert after the proposal signature page) Submit your proposal Proposal Bid Bond (if applicable) using the current Proposal Bid Bond form provided in the proposal package. The Power of Attorney page should be stapled to the Proposal Bid Bond. If you are using an electronic bond, include your bid bond number on the Proposal Bid Bond and attach the Proof of Insurance printed from the Surety’s Web Site.

**Disadvantaged Business Utilization Plan and/or Good Faith Effort** – The last items in your bid should be the DBE Utilization Plan (SBE 2026), followed by the DBE Participation Statement (SBE 2025) and supporting paperwork. If you have documentation of a Good Faith Effort, it is to follow the SBE Forms.

**The Bid Letting is now available in streaming Audio/Video from the IDOT Web Site.** A link to the stream will be placed on the main page of the current letting on the day of the Letting. The stream will not begin until 10 AM. The actual reading of the bids does not begin until approximately 10:30 AM.

Following the Letting, the As-Read Tabulation of Bids will be posted by the end of the day. You will find the link on the main Web page for the current letting.

**QUESTIONS: pre-letting up to execution of the contract**

Contractor pre-qualification .....	217-782-3413
Small Business, Disadvantaged Business Enterprise (DBE) .....	217-785-4611
Contracts, Bids, Letting process or Internet downloads .....	217-782-7806
Estimates Unit.....	217-785-3483
Aeronautics.....	217-785-8515
IDNR (Land Reclamation, Water Resources, Natural Resources).....	217-782-6302

**QUESTIONS: following contract execution**

Subcontractor documentation, payments .....	217-782-3413
Railroad Insurance .....	217-785-0275

# 137

RETURN WITH BID

Proposal Submitted By
Name
Address
City

## Letting February 28, 2014

### NOTICE TO PROSPECTIVE BIDDERS

This proposal can be used for bidding purposes by only those companies that request and receive written AUTHORIZATION TO BID from IDOT's Central Bureau of Construction.

**BIDDERS NEED NOT RETURN THE ENTIRE PROPOSAL**

# Notice to Bidders, Specifications, Proposal, Contract and Contract Bond



**Illinois Department  
of Transportation**

Springfield, Illinois 62764

**Contract No. 60L69  
WILL County  
Section 99-1HB-R-1  
Route FAI 57  
Project ACNHPP-0057(306)  
District 1 Construction Funds**

PLEASE MARK THE APPROPRIATE BOX BELOW:

- A Bid Bond is included.
- A Cashier's Check or a Certified Check is included
- An Annual Bid Bond is included or is on file with IDOT.

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)

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RETURN WITH BID



PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of \_\_\_\_\_  
\_\_\_\_\_

Taxpayer Identification Number (Mandatory) \_\_\_\_\_

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

**Contract No. 60L69  
WILL County  
Section 99-1HB-R-1  
Project ACNHPP-0057(306)  
Route FAI 57  
District 1 Construction Funds**

**1.33 miles of interchange reconstruction including new interchange ramps, pavement reconstruction and widening, new culverts, stream relocation, striping, traffic signals and other related work on I-57 at Stuenkel Rd. in University Park and Monee Township.**

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

**RETURN WITH BID**

3. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned bidder further declares that he/she has carefully examined the proposal, plans, specifications, addenda form of contract and contract bond, and special provisions, and that he/she has inspected in detail the site of the proposed work, and that he/she has familiarized themselves with all of the local conditions affecting the contract and the detailed requirements of construction, and understands that in making this bid proposal he/she waives all right to plead any misunderstanding regarding the same.
  
4. **EXECUTION OF CONTRACT AND CONTRACT BOND.** The undersigned bidder further agrees to execute a contract for this work and present the same to the department within fifteen (15) days after the contract has been mailed to him/her. The undersigned further agrees that he/she and his/her surety will execute and present within fifteen (15) days after the contract has been mailed to him/her contract bond satisfactory to and in the form prescribed by the Department of Transportation, in the penal sum of the full amount of the contract, or as specified in the special provisions, guaranteeing the faithful performance of the work in accordance with the terms of the contract.
  
5. **PROPOSAL GUARANTY.** Accompanying this proposal is either a bid bond on the department form, executed by a corporate surety company satisfactory to the department, or a proposal guaranty check consisting of a bank cashier's check or a properly certified check for not less than 5 per cent of the amount bid or for the amount specified in the following schedule:

<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	
Up to	\$5,000 .....	\$150	\$2,000,000	to	\$3,000,000 .....	\$100,000
\$5,000	to \$10,000 .....	\$300	\$3,000,000	to	\$5,000,000 .....	\$150,000
\$10,000	to \$50,000 .....	\$1,000	\$5,000,000	to	\$7,500,000 .....	\$250,000
\$50,000	to \$100,000 .....	\$3,000	\$7,500,000	to	\$10,000,000 .....	\$400,000
\$100,000	to \$150,000 .....	\$5,000	\$10,000,000	to	\$15,000,000 .....	\$500,000
\$150,000	to \$250,000 .....	\$7,500	\$15,000,000	to	\$20,000,000 .....	\$600,000
\$250,000	to \$500,000 .....	\$12,500	\$20,000,000	to	\$25,000,000 .....	\$700,000
\$500,000	to \$1,000,000 .....	\$25,000	\$25,000,000	to	\$30,000,000 .....	\$800,000
\$1,000,000	to \$1,500,000 .....	\$50,000	\$30,000,000	to	\$35,000,000 .....	\$900,000
\$1,500,000	to \$2,000,000 .....	\$75,000	over		\$35,000,000 .....	\$1,000,000

Bank cashier's checks or properly certified checks accompanying bid proposals will be made payable to the Treasurer, State of Illinois.

If a combination bid is submitted, the proposal guaranties which accompany the individual bid proposals making up the combination will be considered as also covering the combination bid.

The amount of the proposal guaranty check is \_\_\_\_\_ \$( \_\_\_\_\_ ). If this proposal is accepted and the undersigned will fail to execute a contract bond as required herein, it is hereby agreed that the amount of the proposal guaranty will become the property of the State of Illinois, and shall be considered as payment of damages due to delay and other causes suffered by the State because of the failure to execute said contract and contract bond; otherwise, the bid bond will become void or the proposal guaranty check will be returned to the undersigned.

**Attach Cashier's Check or Certified Check Here**

In the event that one proposal guaranty check is intended to cover two or more bid proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual bid proposal. If the guaranty check is placed in another bid proposal, state below where it may be found.

The proposal guaranty check will be found in the bid proposal for:

Item \_\_\_\_\_

Section No. \_\_\_\_\_

County \_\_\_\_\_

**Mark the proposal cover sheet as to the type of proposal guaranty submitted.**

**RETURN WITH BID**

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

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

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

**Schedule of Combination Bids**

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

7. **SCHEDULE OF PRICES.** The undersigned bidder submits herewith, in accordance with the rules and instructions, a schedule of prices for the items of work for which bids are sought. The unit prices bid are in U.S. dollars and cents, and all extensions and summations have been made. The bidder understands that the quantities appearing in the bid schedule are approximate and are provided for the purpose of obtaining a gross sum for the comparison of bids. If there is an error in the extension of the unit prices, the unit prices will govern. Payment to the contractor awarded the contract will be made only for actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as provided elsewhere in the contract.
8. **AUTHORITY TO DO BUSINESS IN ILLINOIS.** Section 20-43 of the Illinois Procurement Code (the Code) (30 ILCS 500/20-43) provides that a person (other than an individual acting as a sole proprietor) must be a legal entity authorized to do business in the State of Illinois prior to submitting the bid.
9. **EXECUTION OF CONTRACT:** The Department of Transportation will, in accordance with the rules governing Department procurements, execute the contract and shall be the sole entity having the authority to accept performance and make payments under the contract. Execution of the contract by the Chief Procurement Officer (CPO) or the State Purchasing Officer (SPO) is for approval of the procurement process and execution of the contract by the Department. Neither the CPO nor the SPO shall be responsible for administration of the contract or determinations respecting performance or payment there under except as otherwise permitted in the Code.
10. **The services of a subcontractor will be used.**

Check box Yes   
 Check box No

For known subcontractors with subcontracts with an annual value of more than \$50,000, the contract shall include their name, address, general type of work to be performed, and the dollar allocation for each subcontractor.  
 (30 ILCS 500/20-120)

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ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 60L69

State Job # - C-91-001-11

County Name - WILL - -

Code - 197 - -

District - 1 - -

Section Number - 99-1HB-R-1

Project Number  
ACNHPP-0057/306/

Route  
FAI 57

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
A2C040G3	T-PLAT OCCID CG 3G	EACH	8.000				
A2002366	T-BETULA NIGRA CL 6'	EACH	10.000				
A2006512	T-QUERCUS BICOL 1-1/2	EACH	10.000				
A2006712	T-QUERCUS MACR 1-1/2	EACH	8.000				
B2001566	T-CRATAE CRUS SF 6'	EACH	12.000				
C2C05924	S-RHUS GLABRA 2'C	EACH	67.000				
K0013030	P PL WETLND 2X4 DPPLG	UNIT	118.000				
K0026850	PERENNIAL PLANT CARE	SQ YD	8,820.000				
K0029614	WEED CONT AQUATIC	GALLON	5.000				
K0029634	WEED CONTR PRE-EM GRN	POUND	1,004.000				
X0322141	REM TEMP WOOD POLE	EACH	5.000				
X0322641	TEMP CLEAR WATER DIVR	L SUM	1.000				
X0322792	BEDDING MATERIAL SPL	CU YD	27.000				
X0323003	TEMP ELECT SERV INST	EACH	2.000				
X0324085	EM VEH P S LSC 20 3C	FOOT	1,303.000				

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X0325085	TEMP PAVT INTERSTATE	SQ YD	17,964.000				
X0325201	SHOULDER RUM STRIP RM	SQ YD	8,189.000				
X0325751	DRIVE SOLDIER PILES	FOOT	357.000				
X0326687	REM HTC MED BAR TERM	EACH	2.000				
X0326760	REM EX LT CNTRLR SALV	EACH	1.000				
X0327349	TEMP WP 40 CL 4	EACH	5.000				
X0327374	REM TEMP SOIL RET SYS	SQ FT	534.000				
X0327622	REM REINS HTC MED BAR	FOOT	8,000.000				
X2040805	FURNISHED EXCAV SPL	CU YD	3,660.000				
X2501800	SEEDING CL 4 MOD	ACRE	56.000				
X2501820	SEEDING CL 5 MOD	ACRE	56.000				
X2502024	SEEDING CL 4B MOD	ACRE	13.500				
X2511640	EROS CONT BLANKET MOD	SQ YD	140,095.000				
X4022000	TEMP ACCESS- COM ENT	EACH	5.000				
X4023000	TEMP ACCESS- ROAD	EACH	6.000				

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X4401198	HMA SURF REM VAR DP	SQ YD	3,047.000				
X5121800	PERM STEEL SHT PILING	SQ FT	1,919.000				
X5860110	GRANULAR BACKFILL STR	CU YD	461.000				
X6061100	CONC MED TSB SPL	SQ FT	5,478.000				
X6650202	WOV W FENCE REMOV	FOOT	3,511.000				
X6700410	ENGR FLD OFF A SPL	CAL MO	30.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				
X7011015	TR C-PROT EXPRESSWAYS	L SUM	1.000				
X7013820	TR CONT SURVEIL EXPWY	CAL DA	360.000				
X7830050	RAISD REF PM REFL REM	EACH	388.000				
X7830070	GRV RCSD PVT MRKG 5	FOOT	58,429.000				
X7830072	GRV RCSD PVT MRKG 6	FOOT	4,292.000				
X7830076	GRV RCSD PVT MRKG 9	FOOT	6,499.000				
X8210040	TEMP LUM HPSV HM 400W	EACH	18.000				
X8210075	TEMP LUM HPSV HM 750W	EACH	31.000				

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X8251388	LT CT BM 480V200D RS	EACH	1.000				
X8410141	REM TEMP LUMINAIRE	EACH	18.000				
X8440102	RELOC EX LUMINAIRE	EACH	18.000				
X8620200	UNINTER POWER SUP SPL	EACH	2.000				
X8710024	FOCC62.5/125 MM12SM24	FOOT	1,904.000				
X8950077	REM REL EXIST LT CONT	EACH	1.000				
X8950090	RELOC EX LIGHT CONTR	EACH	1.000				
Z0007118	UNTREATED TIMBER LAG	SQ FT	481.000				
Z0010600	CLEAN DRAINAGE SYSTEM	FOOT	1,980.000				
Z0013797	STAB CONSTR ENTRANCE	SQ YD	1,350.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0016702	DETOUR SIGNING	L SUM	1.000				
Z0017400	DRAIN UTIL STR ADJ	EACH	10.000				
Z0017700	DRAIN UTIL STR RECON	EACH	5.000				
Z0018100	DRAINAGE STR ADJ SPL	EACH	6.000				

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Z0018500	DRAINAGE STR CLEANED	EACH	20.000				
Z0018700	DRAINAGE STR REMOVED	EACH	24.000				
Z0021904	SILICONE JT SEAL 1	FOOT	60.000				
Z0026402	FUR SOLDIER PILES HP	FOOT	357.000				
Z0026407	TEMP SHT PILING	SQ FT	531.000				
Z0029662	REPL HT CBL POST FDN	EACH	714.000				
Z0030850	TEMP INFO SIGNING	SQ FT	291.000				
Z0033028	MAINTAIN LIGHTING SYS	CAL MO	24.000				
Z0033056	OPTIM TRAF SIGNAL SYS	EACH	1.000				
Z0037000	PAVT CRACKNG & SEATNG	SQ YD	3,082.000				
Z0049100	RAISE PVT MK REF REPL	EACH	388.000				
Z0058668	GRAD & SHAP FORESLOPE	SQ YD	52,464.000				
Z0062456	TEMP PAVEMENT	SQ YD	2,063.000				
Z0073345	SLEEPER SLAB	FOOT	1,008.000				
Z0076600	TRAINEES	HOOR	1,500.000		0.800		1,200.000

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Z0076604	TRAINEES TPG	HOUR	1,500.000		15.000		22,500.000
20100110	TREE REMOV 6-15	UNIT	614.000				
20100210	TREE REMOV OVER 15	UNIT	504.000				
20100500	TREE REMOV ACRES	ACRE	8.500				
20101000	TEMPORARY FENCE	FOOT	1,115.000				
20200100	EARTH EXCAVATION	CU YD	285,005.000				
20201200	REM & DISP UNS MATL	CU YD	34,520.000				
20300100	CHANNEL EXCAVATION	CU YD	2,430.000				
20400800	FURNISHED EXCAVATION	CU YD	99,295.000				
20800150	TRENCH BACKFILL	CU YD	1,910.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	122,893.000				
21101505	TOPSOIL EXC & PLAC	CU YD	171,480.000				
21301060	EXPLOR TRENCH 60	FOOT	145.000				
21400100	GRADING & SHAP DITCH	FOOT	1,020.000				
25000210	SEEDING CL 2A	ACRE	22.000				

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25000400	NITROGEN FERT NUTR	POUND	1,980.000				
25000500	PHOSPHORUS FERT NUTR	POUND	1,980.000				
25000600	POTASSIUM FERT NUTR	POUND	1,980.000				
25000750	MOWING	ACRE	22.000				
25000775	SELECT MOWING STAKES	EACH	443.000				
25100115	MULCH METHOD 2	ACRE	150.000				
25100135	MULCH METHOD 4	ACRE	2.750				
25200200	SUPPLE WATERING	UNIT	2,000.000				
28000200	EARTH EXC - EROS CONT	CU YD	60.000				
28000250	TEMP EROS CONTR SEED	POUND	10,453.000				
28000305	TEMP DITCH CHECKS	FOOT	1,530.000				
28000400	PERIMETER EROS BAR	FOOT	26,577.000				
28000510	INLET FILTERS	EACH	128.000				
28001000	AGGREGATE - EROS CONT	TON	131.000				
28100107	STONE RIPRAP CL A4	SQ YD	1,344.000				

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28100109	STONE RIPRAP CL A5	SQ YD	11.000				
28200200	FILTER FABRIC	SQ YD	1,506.000				
30300001	AGG SUBGRADE IMPROVE	CU YD	6,502.000				
30300108	AGG SUBGRADE IMPR 8	SQ YD	2,063.000				
30300112	AGG SUBGRADE IMPR 12	SQ YD	143,997.000				
31102000	SUB GRAN MAT C	CU YD	1,680.000				
31200502	STAB SUBBASE HMA 4.5	SQ YD	107,753.000				
35102000	AGG BASE CSE B 8	SQ YD	2,215.000				
35501316	HMA BASE CSE 8	SQ YD	507.000				
40201000	AGGREGATE-TEMP ACCESS	TON	446.000				
40600200	BIT MATLS PR CT	TON	7.300				
40600982	HMA SURF REM BUTT JT	SQ YD	318.000				
40603240	P HMA BC IL19.0 N90	TON	84.000				
40603335	HMA SC "D" N50	TON	315.000				
40603340	HMA SC "D" N70	TON	1,597.000				



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40603595	P HMA SC "F" N90	TON	468.000				
42000416	PCC PVT 9 3/4 JOINTD	SQ YD	13,214.000				
42000516	PCC PVT 10 3/4 JOINTD	SQ YD	71,447.000				
42000541	PCC PVT 12 JOINTED	SQ YD	347.000				
42000900	HES PCC PVT 8	SQ YD	121.000				
42001110	HES PCC PVT 11	SQ YD	666.000				
42001300	PROTECTIVE COAT	SQ YD	120,595.000				
42001420	BR APPR PVT CON (PCC)	SQ YD	1,204.000				
42100340	CONT REINF PCC PVT 12	SQ YD	4,586.000				
42100615	PAVT REINFORCEMENT	SQ YD	5,790.000				
42400200	PC CONC SIDEWALK 5	SQ FT	1,293.000				
42400800	DETECTABLE WARNINGS	SQ FT	112.000				
44000100	PAVEMENT REM	SQ YD	39,446.000				
44000156	HMA SURF REM 1 3/4	SQ YD	3,881.000				
44000157	HMA SURF REM 2	SQ YD	5,245.000				

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44000200	DRIVE PAVEMENT REM	SQ YD	1,397.000				
44000500	COMB CURB GUTTER REM	FOOT	2,062.000				
44004250	PAVED SHLD REMOVAL	SQ YD	14,365.000				
44200535	CL A PATCH T4 8	SQ YD	508.000				
44201741	CL D PATCH T2 8	SQ YD	84.000				
44213000	PATCH REINFORCEMENT	SQ YD	508.000				
44213200	SAW CUTS	FOOT	437.000				
44213204	TIE BARS 3/4	EACH	74.000				
48101200	AGGREGATE SHLDS B	TON	8,359.000				
48203045	HMA SHOULDERS 12	SQ YD	20,287.000				
48300515	PCC SHOULDERS 10 3/4	SQ YD	15,122.000				
48300700	PCC SHOULDERS 12	SQ YD	3,758.000				
50100300	REM EXIST STRUCT N1	EACH	1.000				
50100400	REM EXIST STRUCT N2	EACH	1.000				
50105220	PIPE CULVERT REMOV	FOOT	1,834.000				

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50200100	STRUCTURE EXCAVATION	CU YD	106.000				
50300225	CONC STRUCT	CU YD	105.100				
50300255	CONC SUP-STR	CU YD	390.800				
50300260	BR DECK GROOVING	SQ YD	347.000				
50300300	PROTECTIVE COAT	SQ YD	749.000				
50500505	STUD SHEAR CONNECTORS	EACH	200.000				
50800105	REINFORCEMENT BARS	POUND	429,150.000				
50800205	REINF BARS, EPOXY CTD	POUND	96,370.000				
50800515	BAR SPLICERS	EACH	152.000				
50901730	BRIDGE FENCE RAILING	FOOT	22.000				
50901735	BR FEN RAIL (SDWALK)	FOOT	57.000				
50901750	PARAPET RAILING	FOOT	53.000				
51500100	NAME PLATES	EACH	3.000				
54003000	CONC BOX CUL	CU YD	1,785.600				
542A0223	P CUL CL A 1 18	FOOT	92.000				

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542A0229	P CUL CL A 1 24	FOOT	745.000				
542A0235	P CUL CL A 1 30	FOOT	202.000				
542A1093	P CUL CL A 2 48	FOOT	373.000				
542A5473	P CUL CL A 1 EQRS 18	FOOT	20.000				
5421A024	P CUL CL A 1 24 TEMP	FOOT	1,086.000				
54213657	PRC FLAR END SEC 12	EACH	39.000				
54260311	TRAVERS PIPE GRATE	FOOT	222.000				
54261415	CONC ES 542001 15 1:4	EACH	4.000				
54261418	CONC ES 542001 18 1:4	EACH	7.000				
54261424	CONC ES 542001 24 1:4	EACH	14.000				
54261430	CONC ES 542001 30 1:4	EACH	4.000				
54261436	CONC ES 542001 36 1:4	EACH	1.000				
54261448	CONC ES 542001 48 1:4	EACH	4.000				
54262424	CONC ES 542006 24 1:4	EACH	1.000				
54262624	CONC ES 542006 24 1:6	EACH	1.000				

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54263418	CONC ES 542011 18 1:4	EACH	2.000				
54263424	CONC ES 542011 24 1:4	EACH	4.000				
550A0050	STORM SEW CL A 1 12	FOOT	776.000				
550A0070	STORM SEW CL A 1 15	FOOT	149.000				
550A0340	STORM SEW CL A 2 12	FOOT	1,459.000				
550A0360	STORM SEW CL A 2 15	FOOT	1,408.000				
550A0380	STORM SEW CL A 2 18	FOOT	37.000				
550A0410	STORM SEW CL A 2 24	FOOT	474.000				
550A0430	STORM SEW CL A 2 30	FOOT	270.000				
550A0450	STORM SEW CL A 2 36	FOOT	148.000				
550A0470	STORM SEW CL A 2 42	FOOT	85.000				
550A0480	STORM SEW CL A 2 48	FOOT	350.000				
550A0490	STORM SEW CL A 2 54	FOOT	250.000				
550A0500	STORM SEW CL A 2 60	FOOT	100.000				
550A0510	STORM SEW CL A 2 66	FOOT	1,373.000				

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550A0640	STORM SEW CL A 3 12	FOOT	190.000				
550A0660	STORM SEW CL A 3 15	FOOT	585.000				
550A4900	SS CL A 2 EQRS 24	FOOT	402.000				
59100100	GEOCOMPOSITE WALL DR	SQ YD	229.000				
59300100	CONTR LOW-STRENG MATL	CU YD	8.000				
60100060	CONC HDWL FOR P DRAIN	EACH	20.000				
60107600	PIPE UNDERDRAINS 4	FOOT	298.000				
60107700	PIPE UNDERDRAINS 6	FOOT	33,928.000				
60108200	PIPE UNDERDRAIN 6 SP	FOOT	294.000				
60200805	CB TA 4 DIA T8G	EACH	12.000				
60201340	CB TA 4 DIA T24F&G	EACH	44.000				
60203905	CB TA 5 DIA T1F CL	EACH	1.000				
60204505	CB TA 5 DIA T8G	EACH	5.000				
60205040	CB TA 5 DIA T24F&G	EACH	6.000				
60205310	CB TA 6 DIA T24F&G	EACH	1.000				

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60207605	CB TC T8G	EACH	3.000				
60207915	CB TC T11V F&G	EACH	1.000				
60208240	CB TC T24F&G	EACH	41.000				
60221102	MAN TA 5D T1FCL R-PLT	EACH	1.000				
60224005	MAN TA 6 DIA T8G	EACH	1.000				
60224448	MAN TA 7 DIA T8G	EACH	2.000				
60224458	MAN TA 8 DIA T8G	EACH	5.000				
60224468	MAN TA 9 DIA T8G	EACH	5.000				
60237470	INLETS TA T24F&G	EACH	20.000				
60255500	MAN ADJUST	EACH	2.000				
60257900	MAN RECONST	EACH	4.000				
60500050	REMOV CATCH BAS	EACH	7.000				
60600095	CLASS SI CONC OUTLET	CU YD	25.600				
60600605	CONC CURB TB	FOOT	236.000				
60603800	COMB CC&G TB6.12	FOOT	1,958.000				

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60605000	COMB CC&G TB6.24	FOOT	24,836.500				
60618300	CONC MEDIAN SURF 4	SQ FT	613.000				
63000001	SPBGR TY A 6FT POSTS	FOOT	1,175.000				
63100045	TRAF BAR TERM T2	EACH	5.000				
63100085	TRAF BAR TERM T6	EACH	2.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	7.000				
63200310	GUARDRAIL REMOV	FOOT	2,000.000				
63500105	DELINEATORS	EACH	161.000				
63801200	MOD GLARE SCRNSYS	FOOT	7,375.000				
64200108	SHOULDER RUM STRIP 8	FOOT	28,219.000				
64200116	SHOULDER RUM STRIP 16	FOOT	29,110.000				
64401100	HT CBL MEDIAN BARRIER	FOOT	130.000				
66500105	WOV W FENCE 4	FOOT	24,830.000				
66600105	FUR ERECT ROW MARKERS	EACH	97.000				
66900200	NON SPL WASTE DISPOSL	CU YD	100,000.000				



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66900450	SPL WASTE PLNS/REPORT	L SUM	1.000				
66900530	SOIL DISPOSAL ANALY	EACH	5.000				
67100100	MOBILIZATION	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	360.000				
70106800	CHANGEABLE MESSAGE SN	CAL MO	66.000				
70300100	SHORT TERM PAVT MKING	FOOT	3,600.000				
70300240	TEMP PVT MK LINE 6	FOOT	39,238.000				
70300520	PAVT MARK TAPE T3 4	FOOT	186,125.000				
70300530	PAVT MARK TAPE T3 5	FOOT	18,960.000				
70300560	PAVT MARK TAPE T3 12	FOOT	788.000				
70300570	PAVT MARK TAPE T3 24	FOOT	30.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	70,640.000				
70400100	TEMP CONC BARRIER	FOOT	16,475.000				
70400200	REL TEMP CONC BARRIER	FOOT	23,325.000				
70600240	IMP ATTN TEMP NRD TL2	EACH	2.000				

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70600250	IMP ATTN TEMP NRD TL3	EACH	8.000				
70600350	IMP ATTN REL NRD TL3	EACH	16.000				
72000100	SIGN PANEL T1	SQ FT	722.000				
72000200	SIGN PANEL T2	SQ FT	366.000				
72000300	SIGN PANEL T3	SQ FT	2,393.000				
72400100	REMOV SIN PAN ASSY TA	EACH	14.000				
72400200	REMOV SIN PAN ASSY TB	EACH	2.000				
72400600	RELOC SIN PAN ASSY TB	EACH	3.000				
72400730	RELOC SIGN PANEL T3	SQ FT	372.000				
72700100	STR STL SIN SUP BA	POUND	6,909.000				
72700200	TUB STL SN SUPPORT BA	POUND	5,480.000				
72900100	METAL POST TY A	FOOT	613.000				
72900200	METAL POST TY B	FOOT	304.000				
73000100	WOOD SIN SUPPORT	FOOT	853.000				
73400100	CONC FOUNDATION	CU YD	76.000				

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73700100	REM GR MT SIN SUPPORT	EACH	7.000				
73700200	REM CONC FDN-GR MT	EACH	7.000				
78000200	THPL PVT MK LINE 4	FOOT	29,173.000				
78000500	THPL PVT MK LINE 8	FOOT	6,499.000				
78000600	THPL PVT MK LINE 12	FOOT	1,607.000				
78003120	PREF PL PM TB LINE 5	FOOT	4,292.000				
78005110	EPOXY PVT MK LINE 4	FOOT	37,915.000				
78005120	EPOXY PVT MK LINE 5	FOOT	4,740.000				
78005150	EPOXY PVT MK LINE 12	FOOT	1,436.000				
78008200	POLYUREA PM T1 LTR-SY	SQ FT	1,337.000				
78008210	POLYUREA PM T1 LN 4	FOOT	58,665.000				
78008230	POLYUREA PM T1 LN 6	FOOT	7,651.000				
78008240	POLYUREA PM T1 LN 8	FOOT	1,434.000				
78008250	POLYUREA PM T1 LN 12	FOOT	2,583.000				
78008270	POLYUREA PM T1 LN 24	FOOT	608.000				

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78100100	RAISED REFL PAVT MKR	EACH	873.000				
78100105	RAISED REF PVT MKR BR	EACH	20.000				
78200100	MONODIR PRIS BAR REFL	EACH	2,634.000				
78200200	BIDIR PRIS BAR REFL	EACH	380.000				
78200410	GUARDRAIL MKR TYPE A	EACH	33.000				
78200530	BAR WALL MKR TYPE C	EACH	2,079.000				
78201000	TERMINAL MARKER - DA	EACH	7.000				
78300100	PAVT MARKING REMOVAL	SQ FT	35,757.000				
80400100	ELECT SERV INSTALL	EACH	2.000				
80400200	ELECT UTIL SERV CONN	L SUM	1.000		3,000.000		3,000.000
80500020	SERV INSTALL POLE MT	EACH	2.000				
81028200	UNDRGRD C GALVS 2	FOOT	2,745.000				
81028210	UNDRGRD C GALVS 2 1/2	FOOT	186.000				
81028220	UNDRGRD C GALVS 3	FOOT	1,837.000				
81028240	UNDRGRD C GALVS 4	FOOT	803.000				

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81100320	CON AT ST 1 PVC GS	FOOT	735.000				
81100805	CON AT ST 3 PVC GALVS	FOOT	40.000				
81200230	CON EMB STR 2 PVC	FOOT	150.000				
81300220	JUN BX SS AS 6X6X4	EACH	10.000				
81300530	JUN BX SS AS 12X10X6	EACH	7.000				
81300730	JUN BX SS AS 16X14X6	EACH	2.000				
81304600	JUN BOX EM S 18X12X6	EACH	6.000				
81400100	HANDHOLE	EACH	14.000				
81400200	HD HANDHOLE	EACH	3.000				
81400300	DBL HANDHOLE	EACH	3.000				
81603030	UD 2#4 #6G XLP USE 1	FOOT	2,447.000				
81603081	UD 3#2#4GXLP USE 1.5 P	FOOT	26,750.000				
81702110	EC C XLP USE 1C 10	FOOT	3,120.000				
81702140	EC C XLP USE 1C 4	FOOT	570.000				
81702220	EC C XLP USE 1C 350	FOOT	150.000				

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81702400	EC C XLP USE 3-1C 2	FOOT	1,785.000				
81800200	A CBL 2-1C4 MESS WIRE	FOOT	700.000				
81800290	A CBL 3-1C1/0 MESS W	FOOT	480.000				
81800300	A CBL 3-1C2 MESS WIRE	FOOT	12,750.000				
82102310	LUM SV HOR MT 310W	EACH	88.000				
82103250	LUM SV HOR MT PC 250W	EACH	4.000				
82107100	UNDERPAS LUM 70W HPS	EACH	10.000				
83000300	LT P A 30MH 8DA	EACH	7.000				
83050810	LT P A 47.5MH 15MA	EACH	84.000				
83057505	LT P WD 90 CL4 15MA	EACH	31.000				
83600200	LIGHT POLE FDN 24D	FOOT	75.000				
83600365	LP F M 15BC 10" X 8'	EACH	125.000				
83800205	BKWY DEV TR B 15BC	EACH	84.000				
83800505	BKWY DEV COU AL SKIRT	EACH	60.000				
84100110	REM TEMP LIGHT UNIT	EACH	31.000				

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84200804	REM POLE FDN	EACH	49.000				
84400105	RELOC EX LT UNIT	EACH	65.000				
84500120	REMOV ELECT SERV INST	EACH	2.000				
84500130	REMOV LTG CONTR FDN	EACH	2.000				
85700200	FAC T4 CAB	EACH	1.000				
85700300	FAC T5 CAB	EACH	1.000				
86000100	MASTER CONTROLLER	EACH	1.000				
86400100	TRANSCEIVER - FIB OPT	EACH	2.000				
87300925	ELCBL C TRACER 14 1C	FOOT	1,878.000				
87301215	ELCBL C SIGNAL 14 2C	FOOT	977.000				
87301225	ELCBL C SIGNAL 14 3C	FOOT	2,394.000				
87301245	ELCBL C SIGNAL 14 5C	FOOT	5,207.000				
87301255	ELCBL C SIGNAL 14 7C	FOOT	320.000				
87301305	ELCBL C LEAD 14 1PR	FOOT	5,127.000				
87301805	ELCBL C SERV 6 2C	FOOT	185.000				

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87301900	ELCBL C EGRDC 6 1C	FOOT	1,792.000				
87502480	TS POST GALVS 14	EACH	5.000				
87700140	S MAA & P 20	EACH	2.000				
87700180	S MAA & P 28	EACH	1.000				
87700190	S MAA & P 30	EACH	2.000				
87702880	STL COMB MAA&P 30	EACH	1.000				
87702900	STL COMB MAA&P 34	EACH	1.000				
87702920	STL COMB MAA&P 38	EACH	1.000				
87702970	STL COMB MAA&P 48	EACH	1.000				
87800100	CONC FDN TY A	FOOT	20.000				
87800150	CONC FDN TY C	FOOT	8.000				
87800400	CONC FDN TY E 30D	FOOT	30.000				
87800415	CONC FDN TY E 36D	FOOT	68.000				
88030020	SH LED 1F 3S MAM	EACH	17.000				
88030050	SH LED 1F 3S BM	EACH	6.000				



ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 60L69

State Job # - C-91-001-11

County Name - WILL - -

Code - 197 - -

District - 1 - -

Section Number - 99-1HB-R-1

Project Number  
 ACNHPP-0057/306/

Route  
 FAI 57

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
88030110	SH LED 1F 5S MAM	EACH	2.000				
88030210	SH LED 2F 3S BM	EACH	1.000				
88200210	TS BACKPLATE LOU ALUM	EACH	19.000				
88500100	INDUCTIVE LOOP DETECT	EACH	16.000				
88600700	PREFORM DETECT LOOP	FOOT	808.000				
88700200	LIGHT DETECTOR	EACH	5.000				
88700300	LIGHT DETECTOR AMP	EACH	2.000				

**CONTRACT NUMBER**

**60L69**

**THIS IS THE TOTAL BID**

**\$ \_\_\_\_\_**

**NOTES:**

1. Each PAY ITEM should have a UNIT PRICE and a TOTAL PRICE.
2. The UNIT PRICE shall govern if no TOTAL PRICE is shown or if there is a discrepancy between the product of the UNIT PRICE multiplied by the QUANTITY.
3. If a UNIT PRICE is omitted, the TOTAL PRICE will be divided by the QUANTITY in order to establish a UNIT PRICE.
4. A bid may be declared UNACCEPTABLE if neither a unit price nor a total price is shown.

## RETURN WITH BID

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

#### I. GENERAL

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

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

C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the CPO to void the contract, and may result in the suspension or debarment of the bidder or subcontractor. If a false certification is made by a subcontractor the contractor's submitted bid and the executed contract may not be declared void unless the contractor refuses to terminate the subcontract upon the State's request after a finding that the subcontractor's certification was false.

I acknowledge, understand and accept these terms and conditions.

#### II. ASSURANCES

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

##### A. Conflicts of Interest

Section 50-13. Conflicts of Interest.

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

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

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

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

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

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

## RETURN WITH BID

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

### **B. Negotiations**

Section 50-15. Negotiations.

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

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

### **C. Inducements**

Section 50-25. Inducement.

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

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

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

Section 50-30. Revolving door prohibition.

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

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

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

Section 50-40. Reporting anticompetitive practices.

When, for any reason, any vendor, bidder, contractor, CPO, SPO, designee, elected official, or State employee suspects collusion or other anticompetitive practice among any bidders, offerors, contractors, proposers, or employees of the State, a notice of the relevant facts shall be transmitted to the Attorney General and the CPO.

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

### **F. Confidentiality**

Section 50-45. Confidentiality.

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

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

## RETURN WITH BID

### G. Insider Information

Section 50-50. Insider information.

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

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

I acknowledge, understand and accept these terms and conditions for the above assurances.

### III. CERTIFICATIONS

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

#### A. Bribery

Section 50-5. Bribery.

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

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

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

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

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

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 2012.

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

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

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

#### B. Felons

Section 50-10. Felons.

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

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

## RETURN WITH BID

### **C. Debt Delinquency**

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

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

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

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

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

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

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-14 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the CPO may declare the contract void if this certification is false.

### **F. Educational Loan**

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

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

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

Section 33E-11 of the Criminal Code of 2012 provides:

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

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

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

## RETURN WITH BID

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

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

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

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

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

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

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

The bidder certifies that if awarded a contract in excess of \$5,000 it will provide a drug free workplace in compliance with the provisions of the Act.

### **J. Disclosure of Business Operations in Iran**

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

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

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

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

Check the appropriate statement:

Company has no business operations in Iran to disclose.

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

## RETURN WITH BID

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

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

**NA-FEDERAL**

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



**RETURN WITH BID**

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

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

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

**The undersigned bidder certifies that it has registered as a business with the State Board of Elections and acknowledges a continuing duty to update the registration in accordance with the above referenced statutes. If the business entity is required to register, the CPO shall verify that it is in compliance on the date the bid or proposal is due. The CPO shall not accept a bid or proposal if the business entity is not in compliance with the registration requirements.**

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

**M. Lobbyist Disclosure**

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

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

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

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

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

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

Or

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

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

I acknowledge, understand and accept these terms and conditions for the above certifications.

## RETURN WITH BID

### IV. DISCLOSURES

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

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

### B. Financial Interests and Conflicts of Interest

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

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.  
**The current annual salary of the Governor is \$177,412.00.**

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

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

### C. Disclosure Form Instructions

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

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on Form A must be signed and dated by a person that is authorized to execute contracts for the bidding company. Note: These questions are for assistance only and are not required to be completed.

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

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

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

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

## RETURN WITH BID

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

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

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

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

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A Financial Information & Potential Conflicts of Interest Disclosure

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

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

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

DISCLOSURE OF FINANCIAL INFORMATION

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

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

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

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

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

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

**RETURN WITH BID**

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

---

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

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

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

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

---

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

---

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

---

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

---

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

---

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

---

**RETURN WITH BID**

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

---

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

---

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

---

**3. Communication Disclosure.**

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

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

**RETURN WITH BID**

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

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

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

**APPLICABLE STATEMENT**

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

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

**NOT APPLICABLE STATEMENT**

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

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

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

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B Other Contracts & Financial Related Information Disclosure

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

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

DISCLOSURE OF OTHER CONTRACTS AND PROCUREMENT RELATED INFORMATION

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

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

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

THE FOLLOWING STATEMENT MUST BE CHECKED

Signature of Authorized Representative Date

OWNERSHIP CERTIFICATION

Please certify that the following statement is true if the individuals for all submitted Form A disclosures do not total 100% of ownership.

Any remaining ownership interest is held by individuals receiving less than \$106,447.20 of the bidding entity's or parent entity's distributive income or holding less than a 5% ownership interest.

Yes No N/A (Form A disclosure(s) established 100% ownership)



## **RETURN WITH BID**

### **SPECIAL NOTICE TO CONTRACTORS**

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

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

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



**RETURN WITH BID**

**Contract No. 60L69  
WILL County  
Section 99-1HB-R-1  
Project ACNHPP-0057(306)  
Route FAI 57  
District 1 Construction Funds**

**PART II. WORKFORCE PROJECTION - continued**

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

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

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

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

**PART III. AFFIRMATIVE ACTION PLAN**

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

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

Address \_\_\_\_\_

**NOTICE REGARDING SIGNATURE**

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

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

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

**RETURN WITH BID**

**ADDITIONAL FEDERAL REQUIREMENTS**

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

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

**RETURN WITH BID**

**Contract No. 60L69  
WILL County  
Section 99-1HB-R-1  
Project ACNHPP-0057(306)  
Route FAI 57  
District 1 Construction Funds**

PROPOSAL SIGNATURE SHEET

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

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

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

(IF A CORPORATION) Corporate Name \_\_\_\_\_  
By \_\_\_\_\_  
Signature of Authorized Representative \_\_\_\_\_  
Typed or printed name and title of Authorized Representative \_\_\_\_\_  
Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW) Business Address \_\_\_\_\_

(IF A JOINT VENTURE) Corporate Name \_\_\_\_\_  
By \_\_\_\_\_  
Signature of Authorized Representative \_\_\_\_\_  
Typed or printed name and title of Authorized Representative \_\_\_\_\_  
Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
Business Address \_\_\_\_\_

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



This Annual Proposal Bid Bond shall become effective at 12:01 AM (CDST) on \_\_\_\_\_ and shall be valid until \_\_\_\_\_ 11:59 PM (CDST).

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

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

as SURETY, and held jointly, severally and firmly bound unto the STATE OF ILLINOIS in the penal sum of 5 percent of the total bid price, or for the amount specified in the bid proposal under "Proposal Guaranty" in effect on the date of the Invitation for Bids, whichever is the lesser sum, well and truly to be paid unto said STATE OF ILLINOIS, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that whereas, the PRINCIPAL may submit bid proposal(s) to the STATE OF ILLINOIS, acting through the Department of Transportation, for various improvements published in the Transportation Bulletin during the effective term indicated above.

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

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

In TESTIMONY WHEREOF, the said PRINCIPAL has caused this instrument to be signed by its officer \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

In TESTIMONY WHEREOF, the said SURETY has caused this instrument to be signed by its officer \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

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

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

By \_\_\_\_\_  
(Signature and Title)

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

**Notary for PRINCIPAL**

**Notary for SURETY**

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

Signed and attested before me on \_\_\_\_\_ (date)

Signed and attested before me on \_\_\_\_\_ (date)

by \_\_\_\_\_  
(Name of Notary Public)

by \_\_\_\_\_  
(Name of Notary Public)

(Seal) \_\_\_\_\_  
(Signature of Notary Public)

(Seal) \_\_\_\_\_  
(Signature of Notary Public)

\_\_\_\_\_  
(Date Commission Expires)

\_\_\_\_\_  
(Date Commission Expires)

In lieu of completing the above section of the Annual Proposal Bid Bond form, the Principal may file an Electronic Bid Bond. By signing the proposal(s) the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the State of Illinois under the conditions of the bid bond as shown above.

---

Electronic Bid Bond ID #	Company/Bidder Name	Signature and Title
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This bond may be terminated, at Surety's request, upon giving not less than thirty (30) days prior written notice of the cancellation/termination of the bond. Said written notice shall be issued to the Illinois Department of Transportation, Chief Contracts Official, 2300 South Dirksen Parkway, Springfield, Illinois, 62764, and shall be served in person, by receipted courier delivery or certified or registered mail, return receipt requested. Said notice period shall commence on the first calendar day following the Department's receipt of written cancellation/termination notice. Surety shall remain firmly bound to all obligations herein for proposals submitted prior to the cancellation/termination. Surety shall be released and discharged from any obligation(s) for proposals submitted for any letting or date after the effective date of cancellation/termination.



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

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

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

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

as SURETY, and held jointly, severally and firmly bound unto the STATE OF ILLINOIS in the penal sum of 5 percent of the total bid price, or for the amount specified in the bid proposal under "Proposal Guaranty" in effect on the date of the Invitation for Bids, whichever is the lesser sum, well and truly to be paid unto said STATE OF ILLINOIS, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

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

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

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

In TESTIMONY WHEREOF, the said PRINCIPAL has caused this instrument to be signed by its officer  
\_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

In TESTIMONY WHEREOF, the said SURETY has caused this instrument to be signed by its officer  
\_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

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

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

By \_\_\_\_\_  
(Signature and Title)

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

**Notary for PRINCIPAL**

**Notary for SURETY**

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

Signed and attested before me on \_\_\_\_\_ (date)  
by \_\_\_\_\_

Signed and attested before me on \_\_\_\_\_ (date)  
by \_\_\_\_\_

(Name of Notary Public)

(Name of Notary Public)

(Seal) \_\_\_\_\_  
(Signature of Notary Public)

(Seal) \_\_\_\_\_  
(Signature of Notary Public)

\_\_\_\_\_  
(Date Commission Expires)

\_\_\_\_\_  
(Date Commission Expires)

In lieu of completing the above section of the Proposal Bid Bond form, the Principal may file an Electronic Bid Bond. By signing the proposal the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the State of Illinois under the conditions of the bid bond as shown above.

Electronic Bid Bond ID # \_\_\_\_\_ Company/Bidder Name \_\_\_\_\_ Signature and Title \_\_\_\_\_



**(1) Policy**

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

**(2) Obligation**

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

**(3) Project and Bid Identification**

Complete the following information concerning the project and bid:

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

**(4) Assurance**

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

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

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

- Failed to meet contract award goals and has included good faith effort documentation to meet the goals and that my company has provided participation as follows:

Disadvantaged Business Participation \_\_\_\_\_ percent

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

\_\_\_\_\_  
Company

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

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

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

Bureau of Small Business Enterprises  
2300 South Dirksen Parkway  
Springfield, Illinois 62764

**Local Let Projects**  
Submit forms to the  
Local Agency

The Department of Transportation is requesting disclosure of information that is necessary to accomplish the purpose as outlined under State and Federal law. Disclosure of this information is **REQUIRED**. Failure to provide any information will result in the contract not being awarded. This form has been approved by the State Forms Manager Center.



# PROPOSAL ENVELOPE



## PROPOSALS

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

Item No.	Item No.	Item No.

Submitted By:

Name:
Address:
Phone No.

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

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

### **NOTICE**

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

# CONTRACTOR OFFICE COPY OF CONTRACT SPECIFICATIONS

## NOTICE

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

**Contract No. 60L69  
WILL County  
Section 99-1HB-R-1  
Project ACNHPP-0057(306)  
Route FAI 57  
District 1 Construction Funds**



**Illinois Department of Transportation**

## **SUBCONTRACTOR DOCUMENTATION**

Public Acts 96-0795, 96-0920, and 97-0895 enacted substantial changes to the provisions of the Code (30 ILCS 500). Among the changes are provisions affecting subcontractors. The Contractor awarded this contract will be required as a material condition of the contract to implement and enforce the contract requirements applicable to subcontractors that entered into a contractual agreement with a total value of \$50,000 or more with a person or entity who has a contract subject to the Code and approved in accordance with article 108.01 of the Standard Specifications for Road and Bridge Construction.

If the Contractor seeks approval of subcontractors to perform a portion of the work, and approval is granted by the Department, the Contractor shall provide a copy of the subcontract to the Illinois Department of Transportation's CPO upon request within 15 calendar days after execution of the subcontract.

Financial disclosures required pursuant to Sec. 50-35 of the Code must be submitted for all applicable subcontractors. The subcontract shall contain the certifications required to be made by subcontractors pursuant to Article 50 of the Code. This Notice to Bidders includes a document incorporating all required subcontractor certifications and disclosures for use by the Contractor in compliance with this mandate. The document is entitled State Required Ethical Standards Governing Subcontractors.

## RETURN WITH SUBCONTRACT

### STATE ETHICAL STANDARDS GOVERNING SUBCONTRACTORS

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

The certifications hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed should the Department approve the subcontractor. The CPO may terminate or void the contract approval if it is later determined that the bidder or subcontractor rendered a false or erroneous certification. If a false certification is made by a subcontractor the contractor's submitted bid and the executed contract may not be declared void unless the contractor refuses to terminate the subcontract upon the State's request after a finding that the subcontractor's certification was false.

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

#### **A. Bribery**

Section 50-5. Bribery.

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

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

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

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

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

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract to which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 2012.

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

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

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

#### **B. Felons**

Section 50-10. Felons.

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

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

## RETURN WITH SUBCONTRACT

### **C. Debt Delinquency**

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

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

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

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

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

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

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-14 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the CPO may declare the contract void if this certification is false.

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

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

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

\_\_\_\_\_  
Date

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

**I. DISCLOSURES**

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

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

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

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

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the subcontracting entity or its parent entity, whichever is less, unless the subcontractor is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

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

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

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

**C. Disclosure Form Instructions**

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

If the subcontractor is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a subcontractor is not subject to Federal 10K reporting, the subcontractor must determine if any individuals are required by law to complete a financial disclosure form. To do this, the subcontractor should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the **NOT APPLICABLE STATEMENT** on the second page of Form A must be signed and dated by a person that is authorized to execute contracts for the subcontracting company. Note: These questions are for assistance only and are not required to be completed.

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

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

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

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

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

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



## RETURN WITH SUBCONTRACT

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

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

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

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

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

Disclosure of the information contained in this Form is required by the Section 50-35 of the Code (30 ILCS 500). Subcontractors desiring to enter into a subcontract of a State of Illinois contract must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form.

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

DISCLOSURE OF FINANCIAL INFORMATION

1. Disclosure of Financial Information. The individual named below has an interest in the SUBCONTRACTOR (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than 60% of the annual salary of the Governor.

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

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

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

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

1. Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes \_\_\_ No \_\_\_

2. Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, provide the name the State agency for which you are employed and your annual salary.

**RETURN WITH SUBCONTRACT**

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

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

---

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

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

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

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

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

---

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

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

---

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

---

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

---

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

---

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

---

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

---

**RETURN WITH SUBCONTRACT**

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

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

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

**3 Communication Disclosure.**

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

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

**RETURN WITH SUBCONTRACT**

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

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

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

**APPLICABLE STATEMENT**

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

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

**NOT APPLICABLE STATEMENT**

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

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

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

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B
Subcontractor: Other Contracts & Financial Related Information Disclosure

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

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

DISCLOSURE OF OTHER CONTRACTS, SUBCONTRACTS, AND PROCUREMENT RELATED INFORMATION

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

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

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

THE FOLLOWING STATEMENT MUST BE CHECKED

Signature box with fields for Signature of Authorized Officer and Date

OWNERSHIP CERTIFICATION

Please certify that the following statement is true if the individuals for all submitted Form A disclosures do not total 100% of ownership

Any remaining ownership interest is held by individuals receiving less than \$106,447.20 of the bidding entity's or parent entity's distributive income or holding less than a 5% ownership interest.

Yes No N/A (Form A disclosure(s) established 100% ownership)



- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation. Electronic bids are to be submitted to the electronic bidding system (ics-Integrated Contractors Exchange). Paper-based bids are to be submitted to the Chief Procurement Officer for the Department of Transportation in care of the Chief Contracts Official at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m. February 28, 2014. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 60L69  
WILL County  
Section 99-1HB-R-1  
Project ACNHPP-0057(306)  
Route FAI 57  
District 1 Construction Funds**

**1.33 miles of interchange reconstruction including new interchange ramps, pavement reconstruction and widening, new culverts, stream relocation, striping, traffic signals and other related work on I-57 at Stuenkel Rd. in University Park and Monee Township.**

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

By Order of the  
Illinois Department of Transportation

Ann L. Schneider,  
Secretary

INDEX FOR  
 SUPPLEMENTAL SPECIFICATIONS  
 AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2014

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA            Standard Specifications for Road and Bridge Construction (Adopted 1-1-12) (Revised 1-1-14)

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**STATE OF ILLINOIS**

**SPECIAL PROVISIONS**

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1, 2012 the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of FAI 57 (I-57), Project ACNHPP-0057(306), Section 99-1HB-R1, Will County, Contract 60L69, and in case of conflict with any or part or parts of said specifications, the said Special Provisions shall take precedence and shall govern.

Stuenkel Rd at I-57 to Harlem Avenue  
Project ACNHPP-0057(306)  
Section (99-1HB-R1)  
County: Will  
Contract 60L69

**LOCATION OF PROJECT**

The improvements to be constructed under this contract shall be performed along Interstate 57, Stuenkel Road, Central Avenue, and Ridgeland Avenue in the Village of University Park, and Monee Township in Will County, Illinois. The Stuenkel Road improvements shall begin at Station 16002+00 and end at Station 16074+15, a distance of 7215 feet (1.37 Miles). The five (5) interchange ramps are approximately 17,000 feet (3.3 Miles).

**DESCRIPTION OF PROJECT**

The work under this contract includes, but is not limited to: New interchange ramps, pavement reconstruction and widening and includes portions of Ridgeland Avenue. Stream relocation, new and reconstructed culverts, ditches, detention ponds and drainage facilities will also be reconstructed.

**START OF WORK**

The Contractor shall not proceed with any construction operations which would require lane or road closures, lane shifts, and/or shoulder closures as depicted in the Maintenance of Traffic Plans, Maintenance of Traffic Standard Drawings, or Detour plans, prior to March 31, 2014.

The Engineer's written approval shall be obtained by the Contractor before proceeding with any work that interferes with traffic prior to the above date. Off-road work or night operations may proceed prior to the above date if approved by the Engineer.



**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.

**PROTECTION OF EXISTING DRAINAGE FACILITIES DURING CONSTRUCTION**

Unless otherwise noted in the contract plans, the existing drainage facilities shall remain in use during the period of construction. Locations of existing drainage structures and sewers as shown on the contract plans are approximate. Prior to commencement of work, the Contractor, at his own expense, shall determine the exact location of existing structures which are within the proposed construction site. All drainage structures are to be kept free from any debris resulting from construction operations. All work and materials necessary to prevent accumulation of debris in the drainage structures will be considered as included in the cost of the associated drainage pay items of the Contract. Any accumulation of debris in the drainage structure resulting from construction operations shall be removed at the Contractor's own expense, and no extra compensation will be allowed.

Unless reconstruction or adjustment of an existing manhole, catch basin, or inlet is called for in the contract plans or ordered by the Engineer, the proposed work should meet the existing elevations of these structures. Should reconstruction or adjustment of a drainage structure be required by the Engineer in the field, the necessary work and payment shall be done in accordance with Section 602 and Article 104.02 respectively, of the Standard Specifications.

Existing frames and grates are to remain unless otherwise noted in the contract plans or as directed by the Engineer. Frames and grates that are missing or damaged prior to construction shall be replaced. The type of replacement frame or grate shall be determined by the Engineer, and replacement and payment for same shall be in accordance with Section 604 and Article 104.02 respectively, of the Standard Specifications unless otherwise noted in the plans or Special Provisions.

The Contractor shall take the necessary precautions when working near or above existing sewers and culverts in order to protect these pipes during construction from any damage resulting from his operations. All work and materials necessary to protect existing pipes damaged because of noncompliance with this provision shall be replaced as directed by the Engineer in accordance with Section 542 or 550 of the Standard Specifications and at the Contractor's own expense, and no extra compensation will be allowed.

During construction, if the Contractor encounters or otherwise becomes aware of any sewers, culverts, or underdrains within the right-of-way other than those shown on the plans, he shall so inform the Engineer who shall direct the work necessary to maintain the facilities in service and to protect them from damage during construction. Complying with this requirement shall be considered as included in the costs of the various pay items involved.

### **OVERHEAD TRANSMISSION LINE**

An existing overhead Electrical Transmission line is located on the south side of Stuenkel Road within the right of way. This transmission line will be relocated, but will remain energized during construction of all of the proposed improvements. The transmission line is owned and operated by ComEd.

The Contractor shall follow all U.S. Department of Labor Occupational Safety & Health Administration (OSHA) regulations during construction of the project. Applicable regulations may be found at [www.OSHA.gov](http://www.OSHA.gov). When working in the vicinity of the overhead transmission lines and the transmission towers, the contractor shall follow all OSHA regulations concerning work in the vicinity of Transmission lines, including, but not limited to, the following regulations:

#### Part 1926 Safety and Health Regulations for Construction

1926 Subpart N – Cranes, Derricks, Hoists, Elevators, and Conveyors  
1926.550 – Cranes and Derricks

1926 Subpart V – Power Transmission and Distribution  
1926.950 – General Requirements  
1926.955 – Overhead Lines

No additional compensation will be allowed the Contractor for the above requirements.

**COMPLETION DATE PLUS WORKING DAYS**

Effective: September 30, 1985  
Revised: January 1, 2007  
Modified: T Y Lin May 2013

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

"When an INTERIM completion date plus working days is specified, the Contractor shall complete all contract items along Southbound I-57 and safely open all lanes of I-57 to traffic per the maintenance of traffic plans by 11:59 PM on **OCTOBER 31, 2014** except as specified herein.

When a FINAL 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 **OCTOBER 1, 2015** except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within **FIVE (5)** 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 or the Special Provision for "Failure to Complete the Work on Time", if included in this contract, shall apply to both the FINAL completion date, INTERIM completion date and the number of working days.

**FAILURE TO COMPLETE THE WORK ON TIME**

Effective: September 30, 1985  
Revised: January 1, 2007  
Modified: T Y Lin May 2013

Should the Contractor fail to complete the work on or before the INTERIM completion date as specified in the Special Provision for "Completion Date Plus Working Days", or within such extended time as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of \$2,300, not as a penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed.

Should the Contractor fail to complete the work on or before the FINAL completion date as specified in the Special Provision for "Completion Date Plus Working Days", or within such extended time as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of \$5,800, not as a penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed.

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

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.

#### **COORDINATION WITH ADJACENT AND/OR OVERLAPPING CONTRACTS**

This contract abuts and/or overlaps with another concurrent contract listed below. Each contract includes work items requiring close coordination between the various Contractors regarding the sequence and timing for execution of work items. This contract also includes critical work items that affect the staging of traffic and the completion dates of the other contract(s). These critical items along with their completion dates are listed after each contract.

1. Contract No. 60V41 – Stuenkel Road, Ridgeland Avenue to Harlem Avenue. pavement widening and reconstruction, median construction, from April 2013 to November 2013.

Critical items affecting the above contract:

- A. All maintenance of traffic operations must be coordinated with the Contract 60V41 traffic staging. This contract may be required to extend traffic control to match that of Contract 60V41. Gaps between the staging for each contract are prohibited.
2. Contract No. 60T40 – Stuenkel Road, Bridge over I-57. Bridge replacement, from October 2012 to September 2013.
3. Contract No. 63709 – University Parkway, Central Avenue to Cicero Avenue. Widen and Reconstruct, 2014 anticipated.

Add the following paragraph to the beginning of Article 105.08. "The Contractor shall identify all such work items (including the critical items listed above) at the beginning of the contract and coordinate the sequence and timing for their execution and completion with the other Contractors through the Engineer. All of these work items shall be identified as separate line items in the Contractor's proposed Construction Progress Schedule. Additional compensation or the extension of contract time will not be allowed for the progress of the work items affected by the lack of such coordination by the Contractor."

**COMED COORDINATION**

The Contractor shall coordinate his construction with:

Mark Tulach                630-437-2212,  
Ilyas Mohiuddin        708-235-2692  
ComEd  
Two Lincoln Center, Sixth Floor  
Oakbrook Terrace, IL 60181

**BUCKEYE PARTNERS COORDINATION**

The Contractor shall coordinate his construction with:

Mr. Michael Norris  
Buckeye Partners, LP  
West Shore Pipeline Company  
12920 Bell Road  
Lemont, IL 60439

**ENTERPRISE PIPELINE COORDINATION  
TEXAS EASTERN PRODUCT PIPELINE COORDINATION**

The Contractor shall coordinate his construction with:

Mr. Timothy Kistner  
Enterprise Products Operating, LLC (EP COMPANY)  
9420                West                Sam                Huston                Parkway                North  
Houston, TX 77064  
708-906-8662

Mr. Randy Robinson/Mr. Dwane Stout  
Texas Eastern Products Pipeline Co.  
651 South Commerce Drive  
Seymour, IN 47274

### **CONSTRUCTION REQUIREMENTS:**

A minimum of 48 hours (excluding weekends and holidays) prior to commencing construction activities relating to the Encroachment within twenty-five feet (25') of EP COMPANY'S pipeline, Contractor shall notify, or shall require and be responsible for its agents, and subcontractors to notify local One-Call by dialing 811, as well as EP COMPANY'S Operations representative **Timothy Kistner at (708) 906-8662**, so that Mr. Kistner or his designated representative can be present during any approved construction operations. EP COMPANY reserves the right to have EP COMPANY'S representative stationed where proposed pipeline right of way encroachment activities are being performed.

Contractor will provide EP COMPANY'S representatives and or contractors access to the proposed encroachment site during the construction phase of I-57 Highway improvements for the purpose of relocating EP COMPANY'S I-57 Highway east side CP Test Station to the edge of the proposed I-57 Highway right of way.

EP COMPANY will require a minimum of 72 hours' notice prior to crossing EP COMPANY'S pipeline with heavy equipment or when modifying the existing cover over the pipeline per the approved plans. Wherever Contractor is approved to cross EP COMPANY'S pipeline and/or rights-of-way with equipment, Contractor will place matting or other suitable material over the pipeline as determined by EP COMPANY'S representative in the field. Contractor will maintain existing cover over the top of the EP COMPANY'S pipeline at locations where construction or maintenance equipment will routinely cross the pipeline and/or rights-of-way. Any changes to the previously submitted and approved plans affecting the EP COMPANY'S rights-of-way will require submittal to the EP COMPANY for further review and approval.

Contractor may place excavated material inside EP COMPANY'S rights-of-way, but may not place such material over EP COMPANY'S pipeline unless approved by EP COMPANY'S representative. No equipment will be allowed to work over EP COMPANY'S pipeline unless approved by EP COMPANY'S representative. At no point should mechanical excavation be performed less than four feet (4') from EP COMPANY'S pipeline.

### **AT&T COORDINATION**

The Contractor shall coordinate his construction with:

Ms. Pam Summers  
AT&T Civic Project Engineering  
Legal Mandate Team  
1000 Commerce Drive  
Oak Brook, IL 60523  
630-573-6464

**COMCAST COORDINATION**

The Contractor shall coordinate his construction with:

Mrs. Martha Gieras  
Comcast Cable Communications  
Right-Of-Way Department  
688 Industrial Drive  
Elmhurst, IL 60125

**NICOR GAS COMPANY COORDINATION**

The Contractor shall coordinate his construction with:

Ms. Constance Lane  
DOT Liason  
NICOR Gas  
1844 Ferry Road  
Naperville, IL 60563  
Phone Number: (630) 388-3830  
Fax Number: (630) 983-0639

**ILLINOIS DEPARTMENT OF CENTRAL MANAGEMENT SERVICES**

The Contractor shall coordinate his construction with:

Tom Coats/Mr. Kirk Mulvany  
Central Management Services  
120 West Jackson  
Springfield, IL 62702  
Office: 312-814-2288  
Mobile: 312-590-5288

Mr. Rusty Winchel  
Broadband Development Group  
Northern Illinois University  
1120 East Diehl Road – Suite 140  
Naperville, IL 60563  
Rusty Winchel [rwinchel@niu.edu]

**AQUA ILLINOIS**

The Contractor shall coordinate his construction with:

Patrick M. Wren  
 Construction Coordinator  
 1000 S. Schuyler Ave  
 Kankakee, Il 60901  
 Direct: 815.614.2047  
 Cell: 815.278.2491  
 Fax: 815.935.6529  
[pmwren@aquaamerica.com](mailto:pmwren@aquaamerica.com)  
[www.aquaamerica.com](http://www.aquaamerica.com)

**STATUS OF UTILITIES**

Effective: January 30, 1987

Revised: January 24, 2013

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

Name of Utility	Type <u>Location</u>	Approximate	Description
Buckeye Partners	Underground Pipeline	2 locations: Parallel to I-57 from station 1480+00 to 1468+90 where pipeline crosses under I-57.	I-57: No conflict anticipated – pipeline is approx 5’ below excavation limit. CP test station on east side of I-57 to be relocated to proposed ROW.
		Second location is along east side of Central from the north, crossing under Stuenkel where pipeline turns east along south ROW.	Central Ave.: No Conflict Anticipated. To be field verified and located prior to any excavation. Protective slab to be placed prior to storm sewer construction. CP test stations to be relocated to proposed ROW.
Enterprise Pipeline	Underground Pipeline	Parallel to I-57 from station 1480+00 to 1469+05 where pipeline crosses under I-57.	I-57: No conflict anticipated – pipeline is approx 5’ below excavation limit. CP test stations to be relocated to proposed ROW.



Comcast	Overhead Cables and Fiber	Located on existing ComEd poles	No conflict anticipated – to be relocated prior to ComEd pole removal
Zayo Group		North Leg of Central, 40 ft east of centerline. Stuenkel Road East of Central, 37 ft north of centerline	No conflict anticipated -Relocate to Proposed ROW between 16065+00 on Stuenkel Road and 803+00 on Central Ave. 3 Weeks anticipated.
ComEd	Overhead Electric	Approx. 60 ft. south of Stuenkel Road centerline and approx. 30 ft. east of Ridgeland Ave. centerline	<p>No Conflict Anticipated –ComEd to relocate poles, and associated cable prior to construction.</p> <p>Overhead Pole relocation: install 51 poles and remove 55 poles</p> <p>Location as follows:  <u>Stuenkel Road</u> – South side;        Sta. 16004+00 to 16022+50,        Sta. 16075+00 to 16041+00        Ridgeland Avenue – West side;        Sta. 693+00 to 709+50  <u>Central Avenue</u> –East and West        Sta. 794+00 to 803+00</p>
Nicor Gas	Gas Main	<p>37 to 30 ft. west of Central Ave.          17 to 20 ft South of Stuenkel Road</p> <p>12” Dia.Transmission line running north and south through interchange area with existing crossing of I-57 at 1456+10. Proposed ramps will cross at: Ramp A Sta. 116+78, Ramp C Sta. 310+00 and Ramp D Sta. 421+85.</p>	<p>No conflict anticipated. Nicor to Relocate/remove valve complex prior to embankment construction.</p> <p>No conflict anticipated. Nicor pipeline to be relocated below limits of project excavation. To be field verified and located prior to any excavation.</p>

AT&T	Fiber Optic and Telephone	Approx 30 ft. north and south of Stuenkel Road centerline, 46 ft. west and 35 ft east of Central Ave. centerline, and 15 ft. east of Ridgeland Ave. centerline.	No Conflict Anticipated -AT&T to relocate pedestals, buried cable and manholes. AT&T to submit adjustment permit to IDOT, work may begin within 3 weeks from receipt of approved permit. (Permit submittal to IDOT anticipated by ____. ) Proposed relocations will then require approximately 60 days to complete. Facilities to be field verified and located prior to any excavation.
		Underground vault at Northwest corner of Stuenkel Road and Central Avenue	Vault in AT&T easement will remain at existing location. No Conflict anticipated.
Southwest Conference of Mayors (SCM)	Fiber	Installed along NB I-57 east shoulder - collocated with CMS	No Conflict anticipated - fiber to be relocated to vicinity of interchange ROW
Illinois Department of Central Management Services (CMS)	Statewide Fiber optic Network	Installed along NB I-57 east shoulder - collocated with SCM	No Conflict anticipated - fiber to be relocated to vicinity of interchange ROW
Aqua Illinois	Water	West Side Central Avenue. 40 to 45 ft. west of centerline.	Potential Conflicts. To be field verified and located prior to any excavation.
		North Side of University Parkway, east of Central	No Conflict anticipated – fire hydrants to be relocated prior to construction.
	Sewer	East Side Central Avenue. 45 ft. east of centerline.	PVC Gravity Main- Potential Conflicts. To be field verified and located prior to any excavation. PVC main under proposed 66” sewer to be protected during construction.

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

In accordance with 605 ILCS 5/9-113 of the Illinois Compiled Statutes, utility companies have 90 days to complete the relocation of their facilities after receipt of written notice from the Department. The 90-day written notice will be sent to the utility companies after the following occurs:

- 1) Proposed right of way is clear for contract award.
- 2) Final plans have been sent to and received by the utility company.
- 3) Utility permit is received by the Department and the Department is ready to issue said permit.
- 4) If a permit has not been submitted, a 15 day letter is sent to the utility company notifying them they have 15 days to provide their permit application. After allowing 15 days for submission of the permit the 90 day notice is sent to the utility company.
- 5) Any time within the 90 day relocation period the utility company may request a waiver for additional time to complete their relocation. The Department has 10 days to review and respond to a waiver request.

#### **TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)**

Effective: 3/8/96

Revised: 10/11/13

Description. This work shall include furnishing, installing, maintaining, replacing, relocating, and removing all traffic control devices used for the purpose of regulating, warning, or directing traffic. Traffic control and protection shall be provided as called for in the plans, applicable Highway Standards, District One Expressway details, Standards and Supplemental Specifications, these Special Provisions, or as directed by the Engineer.

General. The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions on the expressway through the construction zone. The Contractor shall arrange his operations to keep the closing of lanes and/or ramps to a minimum.

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices. Special attention shall be given to existing warning signs and overhead guide signs during all construction operations. Warning signs and existing guide signs with down arrows shall be kept consistent with the barricade placement at all times. The Contractor shall immediately remove, completely cover, or turn from the motorist's view all signs which are inconsistent with lane assignment patterns.

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

Additional requirements for traffic control devices shall be as follows.

(a) Traffic Control Setup and Removal. The setting and removal of barricades for the taper portion of a lane closure shall be done under the protection of a vehicle with a truck/trailer mounted attenuator and arrow board per State Standard 701428 and the Traffic Control Setup and Removal Freeway/Expressway BDE Special Provision. Failure to meet this requirement will be subject to a Traffic Control Deficiency. The deficiency will be calculated as outlined in Article 105.03 of the Standard Specifications. Truck/trailer mounted attenuators shall comply with Article 1106.02(g) or shall meet the requirements of NCHRP 350 Test Level 3 with vehicles used in accordance with manufacturer's recommendations and requirements.

(b) Sign Requirements

(1) Sign Maintenance. Prior to the beginning of construction operations, the Contractor will be provided a sign log of all existing signs within the limits of the construction zone. The Contractor is responsible for verifying the accuracy of the sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the Contractor. All provisions of Article 107.25 of the Standard Specifications shall apply except the third paragraph shall be revised to read: "The Contractor shall maintain, furnish, and replace at his own expense, any traffic sign or post which has been damaged or lost by the Contractor or a third party. The Contractor will not be held liable for third party damage to large freeway guide signs".

(2) Work Zone Speed Limit Signs. Work zone speed limit signs shall be installed as required in Article 701.14(b) and as shown in the plans and Highway Standards. Based upon the existing posted speed limit, work zone speed limits shall be established and signed as follows.

a. Existing Speed Limit of 55mph or higher. The initial work zone speed limit assembly, located approximately 3200' before the closure, and shall be 55mph as shown in 701400. Additional work zone 45mph assemblies shall be used as required according to Article 701.14(b) and as shown in the Highway Standards and plans. WORK ZONE SPEED LIMIT 55 PHOTO ENFORCED assemblies may be omitted when this assembly would normally be placed within 1500 feet of the END WORK ZONE SPEED LIMIT sign.

b. Existing Speed Limit of 45mph. The advance 55mph work zone speed limit assembly shown in 701400 shall be replaced with a 45mph assembly. Additional work zone 45mph assemblies shall be used as required according to Article 701.14(b) and as shown in the Highway Standards and plans. WORK ZONE SPEED LIMIT 55 PHOTO ENFORCED assemblies shall be eliminated in all cases. END WORK ZONE SPEED LIMIT signs are required.

(3) Exit Signs. The exit gore signs as shown in Standard 701411 shall be a minimum size of 48 inch by 48 inch with 12 inch capital letters and a 20 inch arrow. EXIT OPEN AHEAD signs shown in Standard 701411 shall be a minimum size of 48 inch by 48 inch with 8 inch capital letters.

(4) Uneven Lanes Signs. The Contractor shall furnish and erect "UNEVEN LANES" signs (W8-11) on both sides of the expressway, at any time when the elevation difference between adjacent lanes open to traffic equals or exceeds one inch. Signs shall be placed 500' in advance of the drop-off, within 500' of every entrance, and a minimum of every mile.

(c) Drums/Barricades. Check barricades shall be placed in work areas perpendicular to traffic every 1000', one per lane and per shoulder, to prevent motorists from using work areas as a traveled way. Check barricades shall also be placed in advance of each open patch, or excavation, or any other hazard in the work area, the first at the edge of the open traffic lane and the second centered in the closed lane. Check barricades, either Type I or II, or drums shall be equipped with a flashing light.

To provide sufficient lane widths (10' minimum) for traffic and also working room, the Contractor shall furnish and install vertical barricades with steady burn lights, in lieu of Type II or drums, along the cold milling and asphalt paving operations. The vertical barricades shall be placed at the same spacing as the drums.

(d) Vertical Barricades. Vertical barricades shall not be used in lane closure tapers, lane shifts, exit ramp gores, or staged construction projects lasting more than 12 hours. Also, vertical barricades shall not be used as patch barricades or check barricades. Special attention shall be given, and ballast provided per manufacture's specification, to maintain the vertical barricades in an upright position and in proper alignment.

(e) Temporary Concrete Barrier Wall. Prismatic barrier wall reflectors shall be installed on both the face of the wall next to traffic, and the top of sections of the temporary concrete barrier wall as shown in Standard 704001. The color of these reflectors shall match the color of the edgelines (yellow on the left and crystal or white on the right). If the base of the temporary concrete barrier wall is 12 inches or less from the travel lane, then the lower slope of the wall shall also have a 6 inch wide temporary pavement marking edgeline (yellow on the left and white on the right).

Method of Measurement. This item of work will be measured on a lump sum basis for furnishing, installing, maintaining, replacing, relocating, and removing traffic control devices required in the plans and these Special Provisions. Traffic control and protection required under Standards 701101, 701400, 701401, 701402, 701406, 701411, 701416, 701426, 701428, 701446, 701901 and District details TC-8, TC-9, TC-17, TC-18 and TC-25 will be included with this item.

Basis of Payment.

(a) This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS). This price shall be payment in full for all labor, materials, transportation, handling, and incidental work necessary to furnish, install, maintain, replace, relocate, and remove all Expressway traffic control devices required in the plans and specifications.

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

$$\text{Adjusted contract price} = .25P + .75P [1 \pm (X - 0.1)]$$

Where: "P" is the bid unit price for Traffic Control and Protection

Where: "X" =	$\frac{\text{Difference between original and final sum total value of all work items for which traffic control and protection is required}}{\text{Original sum total value of all work items for which traffic control and protection is required.}}$
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The value of the work items used in calculating the increase and decrease will include only items that have been added to or deducted from the contract under Article 104.02 of the Standard Specifications and only items which require use of Traffic Control and Protection.

(b) The Engineer may require additional traffic control be installed in accordance with standards and/or designs other than those included in the plans. In such cases, the standards and/or designs will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required will be in accordance with Article 109.04 of the Standard Specifications.

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

(d) Temporary concrete barrier wall will be measured and paid for according to Section 704.

(e) Impact attenuators, temporary bridge rail, and temporary rumble strips will be paid for separately.

(f) Temporary pavement markings shown on the Standard will be measured and paid for according to Section 703 and Section 780.

(g) All pavement marking removal will be measured and paid for according to Section 703 or Section 783.

(h) Temporary pavement marking on the lower slope of the temporary concrete barrier wall will be measured and paid for as TEMPORARY PAVEMENT MARKING, 6".

(i) All prismatic barrier wall reflectors will be measured and paid for according to the Recurring Special Provision Guardrail and Barrier Wall Delineation.

### **TRAFFIC CONTROL SURVEILLANCE, EXPRESSWAYS**

Effective: 10/25/95

Revised: 1/9/98

The contractor shall provide a person with a vehicle to survey, inspect and maintain all temporary traffic control devices when a lane is closed to traffic and when hazards are present adjacent to or within 10 foot of the edge of pavement for more than 24 hours.

The surveillance person is required to drive through the project, to inspect all temporary traffic control devices, to correct all traffic control deficiencies, if possible, or immediately contact someone else to make corrections and to assist with directing traffic until such corrections are made, at intervals not to exceed 4 hours. This person shall list every inspection on an inspection form, furnished by the Engineer, and shall return a completed form on the first working day after the inspections are made.

The Contractor shall supply a telephone staffed on a 24-hour-a-day basis to receive any notification of any deficiencies regarding traffic control and protection or receive any request for improving, correcting or modifying traffic control, installations or devices, including pavement markings. The Contractor shall dispatch additional men, materials and equipment as necessary to begin to correct, improve or modify the traffic control as directed, within one hour of notification by this surveillance person or by the Department. Upon completion of such corrections and/or revisions, the Contractor shall notify the Department's Communication Center at (847) 705-4612.

#### **Method of Measurement.**

Traffic Control Surveillance will be measured on calendar day basis. One calendar day is equal to a minimum of six (6) inspections. The inspections shall start within 4 hours after the lane is closed to traffic or a hazard exists within 10 foot from the edge of pavement and shall end when the lane closure or hazard is removed.

#### **Basis of Payment.**

Surveillance will be paid for at the contract unit price per calendar day or fraction thereof for TRAFFIC CONTROL SURVEILLANCE, EXPRESSWAYS. The price shall include all labor and equipment necessary to provide the required inspection and maintenance on the expressway and on all cross streets which are included in the project. The cost of the materials for the maintenance of traffic control devices shall be included in the traffic control pay items.

**KEEPING THE EXPRESSWAY OPEN TO TRAFFIC**

Effective: March 22, 1996  
 Revised: June 17, 2013

Whenever work is in progress on or adjacent to an expressway, the Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards and the District Freeway details. All Contractors' personnel shall be limited to these barricaded work zones and shall not cross the expressway.

The Contractor shall request and gain approval from the Illinois Department of Transportation's Expressway Traffic Operations Engineer at [www.idotlcs.com](http://www.idotlcs.com) twenty-four (24) hours in advance of all daily lane, ramp and shoulder closures and one week in advance of all permanent and weekend closures on all Freeways and/or Expressways in District One. This advance notification is calculated based on workweek of Monday through Friday and shall not include weekends or Holidays.

LOCATION: I-57 @ Stuenkel Road

WEEK NIGHT	TYPE OF CLOSURE	ALLOWABLE CLOSURE HOURS
Sunday thru Thursday	1-Lane	9:00 p.m. - 5:00 a.m.
Friday	1-Lane	10:00 p.m. (Fri) - 8:00 a.m. (Sat)
Saturday	1-Lane	10:00 p.m. (Sat) - 10:00 a.m. (Sun)

In addition to the hours noted above, temporary shoulder and partial ramp closures are allowed weekdays between 9:00 A.M. and 3:00 P.M. and between 7:00 P.M. and 5:00 A.M.

Narrow lanes and permanent shoulder closures will not be allowed between Dec. 1<sup>st</sup> and April 1<sup>st</sup>.

Full Expressway Closures will only be permitted for a maximum of 15 minutes at a time during the low traffic volume hours of 1:00 A.M. to 5:00 A.M. Monday thru Friday and from 1:00 A.M. to 7:00 A.M. on Sunday. During Full Expressway Closures, the Contractor will be required to close off all lanes except one, using Freeway Standard Closures. Police forces should be notified and requested to close off the remaining lane at which time the work item may be removed or set in place. The District One Traffic Operations Department **shall be** notified (847-705-4151) at least 3 working days (weekends and holidays DO NOT count into this 72 hours notification) in advance of the proposed road closure and will coordinate the closure operations with police forces.

Temporary ramp closures for service interchanges will only be permitted at night during the restricted hours listed for temporary one-lane closures within the project limits. However, no two (2) adjacent entrance and exit ramps in one direction of the expressway shall be closed at the same time.



Freeway to freeway (system interchange) full ramp closures for two lane ramps will not be permitted. Partial ramp closures of system ramps may be allowed during the 1-lane closure hours above. System ramp full closures for single lane ramps are only permitted for a maximum of four (4) hours

- between the hours of 1:00 a.m. and 5:00 a.m. on Monday thru Friday
- between the hours of 1:00 a.m. and 6:00 a.m. on Saturday, and
- between the hours of 1:00 a.m. and 7:00 a.m. on Sunday.

The Contractor shall furnish and install large (48" X 48") "DETOUR with arrow" signs as directed by the Engineer for all system ramp closures. In addition, one portable changeable message sign will be required to be placed in advance of the ramp closure. The cost of these signs and PCMS board shall be included in the cost of traffic control and protection (6 static signs maximum per closure).

Should the Contractor fail to completely open, and keep open, the ramps to traffic in accordance with the above limitations, the Contractor shall be liable to the Department for liquidated damages as noted under the Special Provision, "Failure to Open Traffic Lanes to Traffic".

All stage changes requiring the stopping and/or the pacing of traffic shall take place during the allowable hours for Full Expressway Closures and shall be approved by the Department.

All daily lane closures shall be removed during adverse weather conditions such as rain, snow, and/or fog and as determined by the Engineer.

Additional lane closure hour restrictions may have to be imposed to facilitate the flow of traffic to and from major sporting events and/or other events.

All lane closure signs shall not be erected any earlier than one-half (1/2) hour before the starting hours listed above. Also, these signs should be taken down within one-half (1/2) hour after the closure is removed.

The Contractor will be required to cooperate with all other contractors when erecting lane closures on the expressway. All lane closures (includes the taper lengths) without a three (3) mile gap between each other, in one direction of the expressway, shall be on the same side of the pavement. Lane closures on the same side of the pavement with a half (1/2) mile or less gap between the end of one work zone and the start of taper of next work zone should be connected. The maximum length of any lane closure on the project and combined with any adjacent projects shall be three (3) miles. Gaps between successive permanent lane closures shall be no less than two (2) miles in length.

Private vehicles shall not be parked in the work zone. Contractor's equipment and/or vehicles shall not be parked on the shoulders or in the median during non-working hours. The parking of equipment and/or vehicles on State right-of-way will only be permitted at the locations approved by the Engineer.

## **LANE CLOSURE RESTRICTIONS**

The following dates apply for lane and shoulder closures and staged construction:

- The Contractor may work on items that are off the I-57 mainline that do not require lane or shoulder closures from contract award to March 31, 2014; and between October 31, 2014 and April 1, 2015.

Permanent 24-hour lane closures will be allowed in the case of an emergency to address the health and safety of the public, to perform utility service interruptions during non-peak hours, or as otherwise permitted by the Engineer.

- Maintenance of traffic lane closures per plan and specifications from April 1, 2014 to October 31, 2014; and from April 1, 2015 to October 1, 2015.

## **FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC**

Effective: March 22, 1996

Revised: February 9, 2005

Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified under the Special Provisions for "Keeping the Expressway Open to Traffic", the Contractor shall be liable to the Department for the amount of:

One lane or ramp blocked = **\$ 3,000.00**

Two lanes blocked = **\$ 5,000.00**

Not as a penalty but as liquidated and ascertained damages for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. Such damages may be deducted by the Department from any monies due the Contractor. These damages shall apply during the contract time and during any extensions of the contract time.

## **TRAFFIC CONTROL AND PROTECTION (SPECIAL)**

Description:

This work consists of providing traffic control and protection for the work zones on Stuenkel Road and, Harlem Avenue as shown on the plans or as directed by the Engineer. It shall include furnishing, installing, maintaining, replacing, relocating, and removing all traffic control devices, including traffic control signs not paid for separately, used for the purpose of regulating, warning, or directing traffic. Stuenkel Road over I-57 will remain closed to all traffic for the duration of the contract.

This work shall be performed in accordance with the applicable portions of Section 701 and 702 of the Standard Specifications, the Supplemental Specifications, the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, applicable Highway Standards, these Special Provisions or as directed by the Engineer.

**Standards:**

Traffic control devices shall be in accordance with STANDARD 701901.

**Signs:**

The Contractor is responsible for all existing signs within the limits of the construction zone. The contractor is responsible for documenting all existing signs on a sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the Contractor. All provisions of Article 107.25 of the Standard Specifications shall apply except the third paragraph shall be revised to read: "The Contractor shall maintain, furnish, and replace at his own expense, any traffic sign or post which has been damaged or lost by the Contractor or a third party".

**Bridge Work Zone:**

Not applicable.

**Driveways:**

The Contractor shall maintain access to all driveways during construction. Driveway access required under DISTRICT ONE STANDARD Traffic Control and Protection for Side Roads, Intersections, and Driveways (TC-10) shall be followed for this item.

**Emergency Vehicles:**

The Contractor shall maintain a minimum 11ft roadway width along Stuenkel Road, Harlem Avenue and Ridgeland Avenue at all times for the passage of fire fighting equipment and emergency vehicles, unless otherwise noted on the plans. The minimum 11ft width may be maintained with use of the gutter flag.

**Method of Measurement:**

All traffic control devices and temporary pavement markings indicated on the traffic control plans, details, and specified in the Special Provisions will be measured for payment on a lump sum basis. All traffic control and protection requirements as outlined in the "Traffic Control Plan" special provision are included with this item.

**Basis of Payment:**

All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL). This price shall be payment in full for all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

Unless shown on a Standard, all temporary pavement markings will be measured and paid for according to Section 703 and Section 780. All pavement marking removal will be measured and paid for according to Section 703 or Section 783.

BE SURE TO READ ANNOTATIONS BEFORE COMPLETING: Designer is to calculate amount per 15 minutes based on Traffic Volumes. May also need amount for 2 or more lanes blocked. See applicable spreadsheet, contact Design

### **TRAFFIC CONTROL FOR WORK ZONE AREAS**

Effective: 9/14/95

Revised: 1/1/07

Work zone entry and exit openings shall be established daily by the Contractor with the approval of the Engineer. All vehicles including cars and pickup trucks shall exit the work zone at the exit openings. All trucks shall enter the work zone at the entry openings. These openings shall be signed in accordance with the details shown elsewhere in the plans and shall be under flagger control during working hours.

The Contractor shall plan his trucking operations into and out of the work zone as well as on to and off the expressway to maintain adequate merging distance. Merging distances to cross all lanes of traffic shall be no less than 1/2 mile. This distance is the length from where the trucks enter the expressway to where the trucks enter the work zone. It is also the length from where the trucks exit the work zone to where the trucks exit the expressway. The stopping of expressway traffic to allow trucks to change lanes and/or cross the expressway is prohibited.

Failure to comply with the above requirements will result in a Traffic Control Deficiency charge. The deficiency charge will be calculated as outlined in Article 105.03 of the Standard Specifications. The Contractor will be assessed this daily charge for each day a deficiency is documented by the Engineer.

### **PUBLIC CONVENIENCE AND SAFETY (DISTRICT 1)**

Effective: May 1, 2012

Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

“If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply.”

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

“The length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday after”

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

“On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.”

## **DETOUR SIGNING**

The work within this contract will have both road closure and truck width restrictions. All signing necessary to redirect vehicles shall be furnished, erected, maintained, and removed by the Contractor as shown in the “MAINTENANCE OF TRAFFIC – DETOUR PLAN(S)”.

Method of Measurement. Detour and width restriction signing will be measured on a lump sum basis for furnishing, installing, maintaining, replacing, relocating, and removing traffic control devices as required in the plans.

Basis of Payment. This work will be paid for at the contract lump sum price for DETOUR SIGNING. This price shall be payment in full for all labor, materials, transportation, handling, and incidental work necessary to furnish, install, maintain, replace, relocate, and remove all traffic control devices required in the plans

## **TEMPORARY INFORMATION SIGNING (DISTRICT ONE)**

Effective: November 13, 1996

Revised: January 2, 2007

Description.

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

Materials.

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

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

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

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

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

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

#### GENERAL CONSTRUCTION REQUIREMENTS

##### Installation.

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

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

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

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

##### Method Of Measurement.

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

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

##### Basis Of Payment.

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

## REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

Revise Article 669.01 of the Standard Specifications to read:

**“669.01 Description.** This work shall consist of the transportation and proper disposal of contaminated soil and water. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their content and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.”

Revise Article 669.08 of the Standard Specifications to read:

**“669.08 Contaminated Soil and/or Groundwater Monitoring.** The Contractor shall hire a qualified environmental firm to monitor the area containing the regulated substances. The affected area shall be monitored with a photoionization detector (PID) utilizing a lamp of 10.6eV or greater or a flame ionization detector (FID). Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. No excavated soils can be taken to a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation with detectable PID or FID meter readings that are above background. The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily. All testing shall be done by a qualified engineer/technician. Such testing and monitoring shall be included in the work. The Contractor shall identify the exact limits of removal of non-special waste, special waste, or hazardous waste. All limits shall be approved by the Engineer prior to excavation. The Contractor shall take all necessary precautions.

Based upon the land use history of the subject property and/or PID or FID readings indicating contamination, a soil or groundwater sample shall be taken from the same location and submitted to an approved laboratory. Soil or groundwater samples shall be analyzed for the contaminants of concern, including pH, based on the property's land use history or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605. The analytical results shall serve to document the level of soil contamination. Soil and groundwater samples may be required at the discretion of the Engineer to verify the level of soil and groundwater contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, location and elevation, and any other observations.

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846 and "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective."

Replace the first two paragraphs of Article 669.09 of the Standard Specifications with the following:

**"669.09 Contaminated Soil and/or Groundwater Management and Disposal.** The management and disposal of contaminated soil and/or groundwater shall be according to the following:

(a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:

(1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the construction limits as fill, when suitable. Such soil excavated for storm sewers can be placed back into the excavated trench as backfill, when suitable, unless trench backfill is specified. If the soils cannot be utilized within the construction limits, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.

(2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.



(4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as “uncontaminated soil” at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(5) When the Engineer determines soil cannot be managed according to Articles 669.09(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.

(b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC but the pH of the soil is less than 6.25 or greater than 9.0, the excavated soil can be utilized within the construction limits or managed and disposed of off-site as “uncontaminated soil” according to Article 202.03. However the excavated soil cannot be taken to a CCDD facility or an uncontaminated soil fill operation.

(c) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste.

All groundwater encountered within lateral trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than  $10^{-7}$  cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer.”

Revise Article 669.14 of the Standard Specifications to read:

**“669.14 Final Environmental Construction Report.** At the end of the project, the Contractor will prepare and submit three copies of the Environmental Construction Report on the activities conducted during the life of the project, one copy shall be submitted to the Resident Engineer, one copy shall be submitted to the District's Environmental Studies Unit, and one copy shall be submitted with an electronic copy in Adode.pdf format to the Geologic and Waste Assessment Unit, Bureau of Design and Environment, IDOT, 2300 South Dirksen Parkway, Springfield, Illinois 62764. The technical report shall include all pertinent information regarding the project including, but not limited to:

- (a) Measures taken to identify, monitor, handle, and dispose of soil or groundwater containing regulated substances, to prevent further migration of regulated substances, and to protect workers,
- (b) Cost of identifying, monitoring, handling, and disposing of soil or groundwater containing regulated substances, the cost of preventing further migration of regulated substances, and the cost for worker protection from the regulated substances. All cost should be in the format of the contract pay items listed in the contract plans (identified by the preliminary environmental site investigation (PESA) site number),
- (c) Plan sheets showing the areas containing the regulated substances,
- (d) Field sampling and testing results used to identify the nature and extent of the regulated substances,
- (e) Waste manifests (identified by the preliminary environmental site investigation (PESA) site number) for special or hazardous waste disposal, and
- (f) Landfill tickets (identified by the preliminary environmental site investigation (PESA) site number) for non-special waste disposal.”

Revise the second paragraph of Article 669.16 of the Standard Specifications to read:

“The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.”

Qualifications. The term environmental firm shall mean an environmental firm with at least five (5) documented leaking underground storage tank (LUST) cleanups or that is pre-qualified in hazardous waste by the Department. Documentation includes but not limited to verifying remediation and special waste operations for sites contaminated with gasoline, diesel, or waste oil in accordance with all Federal, State, or local regulatory requirements and shall be provided to the Engineer for approval. The environmental firm selected shall not be a former or current consultant or have any ties with any of the properties contained within and/or adjacent to this construction project.

General. This Special Provision will likely require the Contractor to subcontract for the execution of certain activities.

All contaminated materials shall be managed as either “uncontaminated soil” or non-special waste. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances. The Environmental Firm shall continuously monitor all soil excavation for worker protection and soil contamination. **Phase I Preliminary Engineering information is available through the District’s Environmental Studies Unit.** Soil samples or analysis without the approval of the Engineer will be at no additional cost to the Department. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

The Contractor shall manage any excavated soils and sediment within the following areas:

- Station 700+00 to Station 707+00 (South Ridgeland Avenue) 0 to 100 feet LT (Farmstead, Site 1577AV-28, 23740 Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: PNAs and Arsenic.
- Station 16002+00 to Station 16003+50 (Stuenkel Road) 0 to 60 feet LT (Farmstead, Site 1577AV-28, 23740 Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 16009+00 to Station 16026+50 (Stuenkel Road) 0 to 60 feet LT (Agricultural Land and Vacant Building, Site 1577AV-26, 23700 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic and Manganese.
- Station 16030+30 to Station 16042+00 (Stuenkel Road) 0 to 60 feet LT (Agricultural Land, Site 1577AV-11, 5700 block of Stuenkel Road). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 16042+00 to Station 16045+00 (Stuenkel Road) 0 to 60 feet LT (Stuenkel Road, Site 1577AV-12, between Central Avenue and I-57 Overpass). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

- Station 16045+00 to Station 16056+30 (Stuenkel Road) 0 to 60 feet LT (DSC Logistics, Site 1577AV-9, 300 Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead and Manganese.
- Station 16056+30 to Station 16070+00 (Stuenkel Road) 0 to 60 feet LT (Agricultural Land, Site 1577AV-2, 261-301 block of Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 16070+00 to Station 16075+00 (Stuenkel Road) 0 to 60 feet LT (Applied Systems Inc, Site 1577AV-1, 2400 University Parkway). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 16002+00 to Station 16003+50 (Stuenkel Road) 0 to 60 feet RT (Agricultural Land, Site 1577AV-29, 24000 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 16003+50 to Station 16030+30 (Stuenkel Road) 0 to 60 feet RT (Agricultural Land, Site 1577AV-27, 24000 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic and Manganese.
- Station 16016+00 to Station 16030+30 (Stuenkel Road) 0 to 60 feet RT (Agricultural Land, Site 1577AV-23, 6051 Stuenkel Road). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 16039+00 to Station 16056+30 (Stuenkel Road) 0 to 60 feet RT (Castle and Cooke Cold Storage Warehousing Logistic Services, Site 1577AV-13, 450 Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 16056+30 to Station 16075+00 (Stuenkel Road) 0 to 60 feet RT (Agricultural Land, Site 1577AV-10, 400 block of Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 680+00 to Station 700+00 (South Ridgeland Avenue) 0 to 100 feet LT (Agricultural Land, Site 1577AV-29, 24000 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 680+00 to Station 700+00 (South Ridgeland Avenue) 0 to 100 feet RT (Agricultural Land, Site 1577AV-27, 24000 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 707+00 to Station 720+20 (South Ridgeland Avenue) 0 to 100 feet LT (Agricultural Land, Site 1577AV-28, 24000 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

- Station 700+00 to Station 720+20 (South Ridgeland Avenue) 0 to 100 feet RT (Agricultural Land and Vacant Building, Site 1577AV-26, 23700 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 779+90 to Station 800+00 (South Central Avenue) 0 to 100 feet LT (Castle and Cooke Cold Storage Warehousing Logistic Services, Site 1577AV-13, 450 Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 779+90 to Station 800+00 (South Central Avenue) 0 to 100 feet RT (Agricultural Land, Site 1577AV-10, 400 block of Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 800+00 to Station 820+10 (South Central Avenue) 0 to 100 feet LT (DSC Logistics, Site 1577AV-9, 300 Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 800+00 to Station 820+00 (South Central Avenue) 0 to 100 feet RT (Agricultural Land, Site 1577AV-2, 261-301 block of Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 95+00 to Station 127+65 (Ramp A) 0 to 100 feet LT/RT - Including Infield between Ramp A and I-57 (Agricultural Land and Vacant Building, Site 1577AV-26, 23700 block of Ridgeland Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic and Manganese.
- Station 200+00 to Station 226+60 (Ramp B) 0 to 100 feet LT/RT - Including Infield between Ramp B and I-57 (Agricultural Land, Site 1577AV-11, 5700 block of Stuenkel Road). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, Lead, and Manganese.
- Station 300+00 to Station 333+27 (Ramp C) 0 to 100 feet LT/RT - Including Infield between Ramp C and I-57 and Ramp D (Avatar Corp, Site 1577AV-16, 500 South Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 400+00 to Station 441+62 (Ramp D) 0 to 100 feet LT/RT - Including Infield of Ramp D excluding the area along Stuenkel Road defined by Station 16030+30 to Station 16039+00 0 to 100 feet RT, this area shall be managed as uncontaminated soil (Avatar Corp, Site 1577AV-16, 500 South Central Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic and Manganese.
- Station 500+00 to Station 534+10 (Ramp E) 0 to 100 feet LT/RT - Including Infield between Ramp E and I-57 (Agricultural Land, Site 1577AV-23, 6051 Stuenkel Road). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

## **ADJUSTMENTS AND RECONSTRUCTIONS**

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

**“602.04 Concrete.** Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020.”

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

“Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.05 to read:

**“603.05 Replacement of Existing Flexible Pavement.** After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.06 to read:

**“603.06 Replacement of Existing Rigid Pavement.** After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface.”

Revise the first sentence of Article 603.07 to read:

**“603.07 Protection Under Traffic.** After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.”

### **DRAINAGE STRUCTURE ADJUSTMENT (SPECIAL)**

**Description.**

This work shall consist of adjusting existing drainage structures at the locations depicted on the plans and installing a new frame and lid of the type indicated. This work shall be constructed in accordance with Section 602 of the Standard Specifications except as herein modified.

New Frame and Lid will not be measured separately but shall be included in the cost of DRAINAGE STRUCTURE ADJUSTMENT (SPECIAL).

**Basis of Payment.**

Drainage Structure Adjustment and new Frame and Lid will be paid for at the contract unit price per each for DRAINAGE STRUCTURE ADJUSTMENT (SPECIAL)

### **DRAINAGE & UTILITY STRUCTURES TO BE ADJUSTED**

**Description.**

This work shall consist of the adjustment of storm drainage, utility and sanitary structures and vaults at locations as directed by the Engineer. In the field. This work shall be completed in accordance with the applicable portions of Sections 602 and 603 of the Standard Specifications. Cast iron or plastic adjusting rings shall not be allowed.

**Basis of Payment.**

The work will be paid for at the unit price each for DRAINAGE & UTILITY STRUCTURES TO BE ADJUSTED which price shall include the adjustment of storm or sanitary manholes, vaults, resetting the frame and grate or lid, removing and installing a new chimney seal and excavation and backfill.

### **DRAINAGE & UTILITY STRUCTURES TO BE RECONSTRUCTED**

**Description.**

This work shall consist of the reconstruction of storm drainage, utility and sanitary structures and vaults at locations as directed by the Engineer. In the field. This work shall be completed in accordance with the applicable portions of Sections 602 and 603 of the Standard Specifications. Cast iron or plastic adjusting rings shall not be allowed.

**Basis of Payment.**

The work will be paid for at the unit price each for DRAINAGE & UTILITY STRUCTURES TO BE RECONSTRUCTED which price shall include the reconstruction of storm or sanitary manholes, vaults, resetting the frame and grate or lid, removing and installing a new chimney seal and excavation and backfill.

## **DRAINAGE STRUCTURES TO BE REMOVED**

### **Description:**

This work shall consist of removing existing drainage manholes, catch basins, inlets, and pipe culvert headwalls at the locations indicated on the plans or as directed by the Engineer. The work shall be in accordance with Sections 501 and 605 of the Standard Specifications.

### **Method of Measurement:**

DRAINAGE STRUCTURE TO BE REMOVED will be measured for payment in units of each.

### **Basis of Payment:**

This work will be paid for at the contract unit price per Each for DRAINAGE STRUCTURE TO BE REMOVED, which price includes payment in full for all material, labor, tools, equipment, satisfactory disposal, and incidentals required to perform the work as specified herein.

## **DRAINAGE STRUCTURES TO BE CLEANED**

### **Description:**

This work shall consist of cleaning debris and material from drainage manholes, catch basins, and inlets at the locations indicated on the plans or as directed by the Engineer. The work shall be performed at the conclusion of the project after erosion control measures have been removed.

### **CONSTRUCTION REQUIREMENTS:**

This work shall be completed by mechanical suction methods or by hand. Flushing of the material downstream is not authorized. Material from the structures shall be properly disposed of by the Contractor according to Article 202.03.

Acceptance of this work shall be made by the Engineer following a visual inspection. Should material be deposited in the structures to be cleaned following the completion of this work, the affected structures shall be re-cleaned by the Contractor at no additional expense. Any damage to the drainage structure, adjacent storm sewers or surrounding area caused by the Contractor in prosecution of this work shall be repaired or replaced by the Contractor, the cost of which is the responsibility of the Contractor.

### **Method of Measurement:**

This work will be measured in place at each type of structure being cleaned, for payment in units of each.

### **Basis of Payment:**

This work will be paid for at the contract unit price per Each for DRAINAGE STRUCTURES TO BE CLEANED, regardless of size or type of structure, which payment shall constitute full compensation for all removal, disposal of removed debris outside of the right-of-way and incidentals necessary to complete the work as specified.



## **CLEANING DRAINAGE SYSTEM**

### Description:

This work shall consist of cleaning debris and material from storm sewers at locations indicated on the plans. The work shall be performed at the conclusion of the project after erosion control measures have been removed.

### **CONSTRUCTION REQUIREMENTS:**

This work can be completed by mechanical suction methods or by hand. Flushing of the material downstream is not authorized. Material from the storm sewers shall be properly disposed of by the Contractor according to Article 202.03.

Acceptance of this work shall be made by the Engineer following a visual inspection. Should material be deposited in the storm sewers to be cleaned following the completion of this work, the affected storm sewers shall be re-cleaned by at the Contractor's expense. Any damage to the storm sewers or surrounding area caused by the Contractor in prosecution of this work shall be repaired or replaced by the Contractor, the cost of which is the responsibility of the Contractor.

### Method of Measurement:

This work will be measured in place along the ground, from end to end of the storm sewer being cleaned, for payment in feet.

### Basis of Payment:

This work will be paid for at the contract unit price per FOOT for CLEANING DRAINAGE SYSTEM, regardless of size or type of storm sewer, which payment shall constitute full compensation for all removal, disposal of removed debris outside of the right-of-way and incidentals necessary to complete the work as specified.

## **FIRE HYDRANTS TO BE MOVED**

Add the following to Article 564.04 of the Standard Specifications:

Extension pipe will not be measured separately but shall be included in the cost of FIRE HYDRANTS TO BE MOVED

## **AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS**

Effective: April 1, 2001

Revised: January 2, 2007

Revise Article 402.10 of the Standard Specifications to read:

**"402.10 For Temporary Access.** The contractor shall construct and maintain aggregate surface course for temporary access to private entrances, commercial entrances and roads according to Article 402.07 and as directed by the Engineer.

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

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

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

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

Add the following to Article 402.12 of the Standard Specifications:

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

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

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

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

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

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

**ENGINEER'S FIELD OFFICE TYPE A (SPECIAL)**

Effective: December 1, 2011

Revised: May 1, 2013

Revised: May 2, 2013

The Field Office shall be located at 25808, 25812 and 25816 Sunset Dr., Monee, IL.

Revise the first paragraph of Article 670.02 to read:

**670.02 Engineer's Field Office Type A (Special).** Type A (Special) field offices shall have a ceiling height of not less than 7ft. and a floor space of not less than 3000 sq. ft. with a minimum of two separate offices. The office shall also have a separate storage room capable of being locked for the storage of nuclear measuring devices. The office shall be provided with sufficient heat, natural and artificial light, and air conditioning. Doors and windows shall be equipped with locks approved by the Engineer.

Revise the first sentence of the second paragraph of Article 670.02 to read:

An electronic security system that will respond to any breach of exterior doors and windows with an on-site alarm shall be provided.

Revise the last sentence of the third paragraph of Article 670.02 to read:

Adequate all-weather parking space shall be available to accommodate a minimum of twelve vehicles.

Revise the fifth paragraph of Article 670.02 to read:

Sanitary facilities shall include hot and cold potable running water, lavatory and toilet as an integral part of the office where available. Solid waste disposal consisting of seven waste baskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service. A weekly cleaning service for the office shall be provided.

Revise subparagraph (a) of Article 670.02 to read:

- (a) Fifteen desks with a minimum working surface 1.1m x 750 mm (42 in. x 30 in.) each and fifteen non-folding chairs with upholstered seats and backs.

Revise subparagraph (d) of Article 670.02 to read:

- (d) Eight free standing four-drawer legal size file cabinets with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.

Revise subparagraph (e) of Article 670.02 to read:

- (e) Twenty folding chairs and three conference tables with minimum top size of 44 inch x 96 inch.

Revise subparagraph (g) of Article 670.02 to read:

- (g) Two office style refrigerators with a minimum size of 16 cubic feet with a freezer unit.

Revise subparagraph (h) of Article 670.02 to read:

- (h) Three electric desk type tape printing calculator and two pocket scientific notation calculators with a 1000 hour battery life or with a portable recharger.

Revise subparagraph (i) of Article 670.02 to read:

- (i) Six telephones, with touch tone, where available, two telephone answering machines, and nine telephone lines including one line for the fax machine, and two lines for the exclusive use of the Engineer. All telephone lines shall include long distance service and all labor and materials necessary to install the phone lines at locations directed by the Engineer. Two of the phone lines must provide DSL service or High Speed Internet equivalent. Minimum internet speed 30 MB/S or approved equivalent. And two 802.11g/n wireless routers.

Revise subparagraph (j) of Article 670.02 to read:

- (j) Two dry process copy machine capable of reproducing prints up to 280 mm x 430 mm (11 in. x 17 in.) from nontransparent master sheets, as black or blue lines on white paper, with sorting and reduction/enlargement capabilities including maintenance, reproduction paper, activating agent and power source, including maintenance, and scan capable. The contractor shall provide the multi-function machines with IT support for setup and maintenance.

Revise subparagraph (k) of Article 670.02 to read:

- (k) Two plain paper fax machines including maintenance and supplies.

Revise subparagraph (l) of Article 670.02 to read:

- (l) On electric water cooler dispenser including water service.

Add the following subparagraphs to Article 670.02:

(n) Two 4 foot x 6 foot dry erase boards.

(o) Five folding tables, minimum 30 inch x 72 inch.

Basis of Payment. The building or buildings fully equipped, will be paid for at the contract unit price per calendar month or fraction thereof for ENGINEER'S FIELD OFFICE TYPE A (SPECIAL) and according to the applicable portions of Article 670.07

#### **EROSION CONTROL BLANKET (MODIFIED).**

This Special Provision revises Sections 251.04 of the Standard Specifications for Road and Bridge Construction to eliminate the use of Excelsior Blanket for Erosion Control Blanket.

Delete Excelsior Blanket from the list of acceptable types.

#### **EROSION AND SEDIMENT CONTROL SCHEDULE**

This Special Provision revises Section 108 (Prosecution and Progress) of the Standard Specifications for Road and Bridge Construction, creating a requirement that erosion and sediment control work items be included in the overall Progress Schedule.

Add the following to the end of the first paragraph of Article 108.02:

The Progress Schedule shall also include the following listed items. The erosion and sediment control components of the Progress Schedule shall be referred to as the Erosion and Sediment Control Schedule.

The Erosion and Sediment Control Schedule shall include the following:

- (a) Clearing of areas necessary for installation of perimeter controls specified in the Contract Documents.
- (b) Construction of perimeter controls specified in the Contract Documents.
- (c) Remaining clearing.
- (d) Roadway grading (including off-site work).
- (e) Structural Stabilization devices listed in the Storm Water Pollution Prevention Plan (SWPPP).
- (f) Winter shutdown date and probable days lost to inclement weather.
- (g) Seeding dates.

- (h) If applicable, utility installation and whether storm drains shall be used or blocked after construction.
- (i) Final grading, landscaping, and stabilization.
- (j) Removal of perimeter controls as required by plans.

## **STABILIZED CONSTRUCTION ENTRANCE**

### **Description:**

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

### **Materials:**

Aggregate shall consist of coarse aggregate gradations CA-1, CA-2, CA-3, or CA-4 meeting the requirements of Article 1004.04. Aggregate thickness shall be as detailed on the plans

Geotechnical fabric shall meet the requirements of Article 1080.02.

### **General:**

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

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

Restoration shall be paid for separately as TEMPORARY EROSION CONTROL SEEDING and EROSION CONTROL BLANKET.

### **Method of Measurement:**

The stabilized construction entrance will be measured in place and the area computed in square yards.

### **Basis of Payment:**

This work will be paid for at the contract unit price per square yard for STABILIZED CONSTRUCTION ENTRANCE, which price shall be payment in full for all excavation, except excavation in rock; removal and disposal of excavated materials; geotechnical fabric; Cellular confinement grids; furnishing, placing, compacting, and disposing of coarse aggregate; and for all labor, tools and equipment necessary to construct the work as specified.

## **TEMPORARY CLEAR WATER DIVERSION**

Description: This item shall consist of furnishing all material, equipment and labor necessary to divert and maintain flow around and/ or through the existing/proposed structures located along the East Branch of Hickory Creek during the removal of the existing culverts and construction of the proposed culverts of the as shown on the plans, as herein specified, and as directed by the Engineer.

Construction Requirements: The Contractor may install a temporary pipe or flume, or pump system to carry the waters of the Creek through the structure(s) during construction.

The diversion for the culvert at I-57/Ramp D/Ramp B will require coordination with the stages of traffic as depicted in the Maintenance of Traffic and Culvert Plans and may require multiple diversions during the individual stages of traffic.

The Contractor shall submit details and calculations for the maintenance of flow system(s) he/she proposes to use for approval of the Engineer prior to ordering of any necessary materials and implementation. Such approval shall in no way relieve the Contractor of responsibility for the safety of the excavation.

A quantity for CHANNEL EXCAVATION has been included in the plans to facilitate the implementation of the diversions.

Basis of Payment: The work specified herein, as shown on the plans and as directed by the Engineer, shall be paid for at the contract lump sum price for TEMPORARY CLEAR WATER DIVERSION which payment shall constitute full compensation for all diversions at all proposed culverts and staging operations.

Excavation at the culvert inlets and outlets shall be measured and paid for as CHANNEL EXCAVATION.

## **STONE RIPRAP, CLASS A5 (SPECIAL)**

Description:

This work consists of placement of rock vanes in the relocated creek as depicted in the Drainage Details, at the locations shown on the Erosion Control plans or as directed by the Engineer. The Rock Vanes are to mimic natural creek features. This work shall be constructed in accordance with Section 281 of the Standard Specifications except as herein modified.

Materials shall meet the requirements of Article 1005.01 except that field stone or boulders are accepted and all rock shall be rounded. Angular rock and/or broken concrete are not permitted.

## Placement

Filter fabric and bedding material shall be according to 281.04 (a).

Dumping shall not be permitted. All Rock must be arranged to its final position to match the plan detail. Rocks should be firmly placed so that all rocks are in contact with each other and to ensure that all rock is not unbalanced or subject to displacement when the creek water flow is reinstated.

Method of Measurement. STONE RIPRAP, CLASS A5 (SPECIAL) will be measured in place and the area computed in square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for STONE RIPRAP, CLASS A5 (SPECIAL)

## **RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL**

### **RAISED REFLECTIVE PAVEMENT MARKER REFLECTOR REPLACEMENT**

#### Description:

This work consists of removal of the existing raised reflective pavement marker reflectors and replacement in kind with new reflectors at the locations shown on the Maintenance of Traffic and Pavement Marking plans or as directed by the Engineer.

The removal of the existing reflectors shall be in accordance with the applicable portions of Section 783 of the Standard Specifications.

The installation of the new reflectors shall be in accordance with the applicable portions of Section 781 of the Standard Specifications.

#### Method of Measurement:

RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL and RAISED REFLECTIVE PAVEMENT MARKER REFLECTOR REPLACEMENT will be measured for payment in units of each.

#### Basis of Payment:

This work will be paid at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL or RAISED REFLECTIVE PAVEMENT MARKER REFLECTOR REPLACEMENT which price shall be payment in full for all labor, tools, equipment, and materials necessary to remove and dispose, or replace and install, raised reflective pavement marker reflectors as herein specified.



Existing damaged base castings or base castings removed during pavement removal operations shall be replaced in kind. The contractor shall receive written approval from the Engineer for the replacement of existing damaged raised marker castings. The base casting replacement shall be paid for as RAISED REFLECTIVE PAVEMENT MARKER.

Base castings damaged as a result of construction operations shall be replaced to the satisfaction of the Engineer and as herein specified. Such replacement shall be paid for at the Contractor's expense.

### **PAVEMENT CRACKING AND SEATING**

The existing pavement shall be broken into pieces no larger than 1 ½ to 2 feet on a side, in place, using a method which will ensure that the cracks extend the full depth of the pavement.

Method of Measurement. Pavement Cracking and Seating will be measured in place and the area computed in square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for PAVEMENT CRACKING AND SEATING

### **SHOULDER RUMBLE STRIP REMOVAL**

Description. This work shall consist of scarification of existing shoulder rumble strips constructed in hot-mix asphalt shoulders, and the placement of hot-mix asphalt in the scarified area, prior to placing traffic onto the shoulder in a construction stage. This work shall take place per the limits shown on the {plans and/or as directed by the Engineer.

General Requirements. The nominal depth of scarification of the hot-mix asphalt shoulders shall be 2 inches. Unless otherwise shown in the Plans, the width of the scarification shall be four (4) feet, measured from the mainline pavement longitudinal joint between the mainline pavement and adjoining shoulder.

After removing all millings from the scarified limits, the surface shall be primed in accordance with Article 406.05(b) of the Standard Specifications. The scarified area shall then be filled with hot-mix asphalt surface course and compacted flush with the adjoining pavement and surfaces. The mix to be used for this item shall be IDOT Hot Mix Asphalt Surface Course, IL.9.5, Mix D, N70 unless otherwise specified in the Contract.

Method of Measurement. SHOULDER RUMBLE STRIP REMOVAL will be measured for payment in square yards. Any portion of this work constructed outside the dimensions shown on the Plans or as directed by the Engineer will not be measured for payment.

Basis of Payment. Payment for SHOULDER RUMBLE STRIP REMOVAL, measured as specified will be made at the Contract unit price per square yard, which payment shall constitute full compensation for scarifying the designated portion of hot-mix asphalt shoulder; cleaning the scarified area and removing all debris; applying prime tack; placing and compacting hot-mix asphalt surface mix; and for all labor, equipment, tools and incidentals necessary to complete the work as specified.

Lane/shoulder closures required for this item will not be paid for separately, but will be included in the Contract unit price MAINTENANCE OF TRAFFIC.

### **REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM**

Description. This work shall consist of removing, as necessary or as directed by the Engineer, portions of a temporary soil retention system installed under IDOT Contract 60T40 to accommodate the proposed work. The installed system is a 'Wire Faced MSE Wall System' by The Reinforced Earth Company.

General. The removal shall be done in accordance with the applicable portions of Section 501 of the Standard Specifications or as otherwise directed by the Engineer. The Contractor may request details of the existing soil retention system from IDOT. The existing system is backfilled with granular material. Any voids that may result from removal operations shall be backfilled with the material specified for roadway embankment.

Method of Measurement. REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM will be measured for payment in place and the area computed in square foot.

Basis of Payment. This work will be paid for at the contract unit price per square foot for REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM, which price shall be considered payment in full for all labor, equipment, removal, disposal and backfilling as required.

### **FURNISHED EXCAVATION, SPECIAL**

Description:

This work shall consist of excavating suitable materials from specific IDOT owned sites, outside of the project limits, and transporting the material to various locations throughout the limits of the contract and regrading/ restoring the site after material removal. This work shall be performed in accordance with Section 204, 250 of the Standard Specifications, except as herein modified and as directed by the Engineer.

Material stockpiles within the project limits will be paid as excavation in accordance with Section 202 of the Standard Specifications.

**Location:**

The material shall be obtained from the interchange location of I-57 and Monee Manhattan Road in Monee, Illinois, on IDOT owned property. Approximately 3,660 Cubic Yards of material is estimated to be on site. The contractor will be paid on the basis of measured quantities.

**Erosion Control:**

Perimeter erosion control barrier has been placed by a previous contract. Erosion control measures shall be installed/reinstated at the furnished excavation site during the times of active removal in accordance with the Standard Specifications. Items may include but are not limited to: Erosion Control Barrier (silt fence), Temporary Seeding, Stabilized Construction Entrance. Inlet Protection, etc. The cost of providing erosion control measures at the remote site shall be included in the cost of FURNISHED EXCAVATION, SPECIAL.

**Restoration:**

The work shall also include reshaping or regrading the site after completion of removal operations to provide positive drainage and shall not increase the potential hazard to a vehicle that has inadvertently left the roadway. The steepest slopes in restoration shall be 1:6 (V: H). The disturbed areas shall be covered with a minimum of 4-inches of topsoil, currently stockpiled on site, and seeded with Class 2A seeding and fertilizer in accordance with Section 250 of the Standard Specifications. Modifications to these requirements shall be approved by the Engineer. All work in connection with removing aggregate for access, removing erosion control items, regrading and seeding at the removal site will not be paid for separately.

**Method of Measurement:**

Furnished excavation will be computed for payment in cubic yards by taking cross sections before the work is started and again after it has been completed. The volume of material moved will be computed by the method of average end areas. Restoration and erosion control shall not be measured separately but shall be included in the cost of Furnished Excavation, Special.

**Basis of Payment:**

This work will be paid for at the contract unit price, per cubic yard, for FURNISHED EXCAVATION, SPECIAL.

**GRADING AND SHAPING FORESLOPES**

This work shall consist of grading and shaping existing median, ditches and slopes after the removal of Temporary Pavement (Interstate) as directed by the Engineer, and in accordance with Sections 202, 204 and 205 of the Standard Specifications.

The grading and shaping limits as shown on the plans is approximate. Actual grading and shaping limits shall be determined by the Engineer. In locations where temporary pavement is removed, grading and shaping shall reinstate existing ditch foreslopes and median slopes in order to reinstate existing median drainage and flow lines and to replace cable road guard.

Immediately after grading and shaping is completed, the erosion protection specified and scheduled in the plans will be put in place. Failure to place specified erosion control will result in additional reshaping of the ditches and slopes by the Contractor at his/her expense.

Grading and Shaping Foreslopes will be measured for payment in place, and the area computed in square yards.

This work will be paid for at the contract unit price per square yard for GRADING AND SHAPING FORESLOPES.

### **TOPSOIL EXCAVATION AND PLACEMENT**

Add the following to the second paragraph of Article 211.07(b) of the Standard Specifications:

“The final placement of the topsoil shall be included in the cost of TOPSOIL EXCAVATION AND PLACEMENT. No additional compensation shall be provided.”

### **HEAT OF HYDRATION CONTROL FOR CONCRETE STRUCTURES (D-1)**

Effective: November 1, 2013

Article 1020.15 shall not apply.

### **FRICITION SURFACE AGGREGATE (D1)**

Effective: January 1, 2011

Revised: November 1, 2013

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

“ (4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.

a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).

b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase.”

Revise Article 1004.03(a) of the Standard Specifications to read:

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	Allowed Alone or in Combination: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA All Other	Shoulders	Allowed Alone or in Combination: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup> Crushed Concrete
HMA High ESAL Low ESAL	C Surface IL-12.5,IL-9.5, or IL-9.5L	Allowed Alone or in Combination: Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup> Crushed Concrete
HMA High ESAL	D Surface IL-12.5 or IL-9.5	Allowed Alone or in Combination: Crushed Gravel Carbonate Crushed Stone (other than Limestone) Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup> Crushed Concrete
		Other Combinations Allowed:
		Up to... 25% Limestone

Use	Mixture	Aggregates Allowed	
		50% Limestone	Any Mixture D aggregate other than Dolomite
		75% Limestone	Crushed Slag (ACBF) <sup>1/</sup> or Crushed Sandstone
HMA High ESAL	F Surface IL-12.5 or IL-9.5	Allowed Alone or in Combination: Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup>	
		No Limestone or no Crushed Gravel alone.	
		Other Combinations Allowed:	
		Up to...	With...
		50% Crushed Gravel, or Dolomite	Crushed Sandstone, Crushed Slag (ACBF) <sup>1/</sup> , Crushed Steel Slag <sup>1/</sup> , or Crystalline Crushed Stone
HMA High ESAL	SMA Ndesign 80 Surface	Crystalline Crushed Stone Crushed Sandstone Crushed Steel Slag <sup>1/</sup>	

1/ When either slag is used, the blend percentages listed shall be by volume.

Add to Article 1004.03 (b)

“ When using Crushed Concrete, the quality shall be determined as follows. The Contractor shall obtain a representative sample from the stockpile, witnessed by the Engineer, at a frequency of 2500 tons (2300 metric tons). The sample shall be a minimum of 50 lb (25 kg). The Contractor shall submit the sample to the District Office. The District will forward the sample to the BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent by weight will be applied for acceptance. The stockpile shall be sealed until test results are complete and found to meet the specifications above.”

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

Effective: May 1, 2007

Revised: January 1, 2012

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

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

**HMA MIXTURE DESIGN REQUIREMENTS (D-1)**

Effective: January 1, 2013.

Revised: November 1, 2013

Revise Article 406.14(b) of the Standard Specifications to read.

“(b) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was not produced within 2.0 to 6.0 percent air voids or within the individual control limits of the JMF, the mixture and test strip will not be paid for and the mixture shall be removed at the Contractor’s expense. An additional test strip and mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF.”

Revise Article 406.14(c) of the Standard Specifications to read.

“(c) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF, the mixture shall be removed. Removal will be paid in accordance to Article 109.04 of the Standard Specifications. This initial mixture and test strip will be paid for at the contract unit prices. The additional mixture will be paid for at the contract unit price, and any additional test strips will be paid for at one half the unit price of each test strip.”

1) Design Composition and Volumetric Requirements

Revise the following table in Article 1030.01 of the Standard Specifications to read.

High ESAL	IL-25.0 binder; IL-19.0 binder; IL-12.5 surface; IL-9.5 surface; IL-4.75, SMA
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Revise the following table in Article 1030.04(a)(1):

“(1) High ESAL Mixtures. The Job Mix Formula (JMF) shall fall within the following limits.

High ESAL, MIXTURE COMPOSITION (% PASSING) <sup>1/</sup>														
Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm		IL-9.5 mm		IL-4.75 mm		SMA <sup>4/</sup> IL-12.5 mm		SMA <sup>4/</sup> IL-9.5 mm	
	Min	max	min	max	min	max	min	max	min	max	min	max	min	max
1 1/2 in (37.5 mm)		100												
1 in. (25 mm)	90	100		100										
3/4 in. (19 mm)		90	82	100		100						100		
1/2 in. (12.5 mm)	45	75	50	85	90	100		100		100	80	100		100
3/8 in. (9.5 mm)						89	90	100		100		65	90	100
#4 (4.75 mm)	24	42 <sup>2/</sup>	24	50 <sup>2/</sup>	28	65	32	69	90	100	20	30	36	50
#8 (2.36 mm)	16	31	20	36	28	48 <sup>3/</sup>	32	52 <sup>3/</sup>	70	90	16	24 <sup>5/</sup>	16	32
#16 (1.18 mm)	10	22	10	25	10	32	10	32	50	65				
#30 (600 μm)											12	16	12	18
#50 (300 μm)	4	12	4	12	4	15	4	15	15	30				
#100 (150 μm)	3	9	3	9	3	10	3	10	10	18				
#200 (75 μm)	3	6	3	6	4	6	4	6	7	9 <sup>6/</sup>	7.0	9.0 <sup>6/</sup>	7.5	9.5 <sup>6/</sup>
Ratio Dust/Asphalt Binder		1.0		1.0		1.0		1.0		1.0		1.5		1.5



- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 40 percent passing the #4 (4.75 mm) sieve for binder courses with Ndesign ≥ 90.
- 3/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign ≥ 90.
- 4/ The maximum percent passing the 20 µm sieve shall be ≤ 3 percent.
- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the #8 (2.36mm) sieve shall not be adjusted above 24 percent.
- 6/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.”

Delete Article 1030.04(a)(4) of the Standard Specifications.

Revise Article 1030.04(b)(1) of the Standard Specifications to read.

“(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL						
	Voids in the Mineral Aggregate (VMA), % minimum					Voids Filled with Asphalt Binder (VFA), %
Ndesign	IL-25.0	IL-19.0	IL-12.5	IL-9.5	IL-4.75 <sup>1/</sup>	
50	12.0	13.0	14.0	15.0	18.5	65 – 78 <sup>2/</sup>
70						
90						
105						

1/ Maximum Draindown for IL-4.75 shall be 0.3%

2/ VFA for IL-4.75 shall be 72-85%”

Delete Article 1030.04(b) (4) of the Standard Specifications.

Revise table in Article 1030.04(b)(5) as follows:

“(5) SMA Mixtures.

Volumetric Requirements SMA <sup>1/</sup>			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 <sup>4/</sup>	3.5	17 <sup>2/</sup>	75 - 83
		16 <sup>3/</sup>	

- 1/ Maximum Draindown shall be 0.3%.
- 2/ Applies when specific gravity of coarse aggregate is  $\geq 2.760$ .
- 3/ Applies when specific gravity of coarse aggregate is  $< 2.760$ .
- 4/ For surface course, coarse aggregate shall be Class B Quality; the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone.\*

For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.\*

\*Blending of different types of aggregate will not be permitted.

## 2) Design Verification and Production

Description. The following states the requirements for Hamburg Wheel and Tensile Strength testing for High ESAL, IL-4.75, and Stone Matrix Asphalt (SMA) hot-mix asphalt (HMA) mixes during mix design verification and production.

When the options of Warm Mix Asphalt, Reclaimed Asphalt Shingles, or Reclaimed Asphalt Pavement are used by the Contractor, the Hamburg Wheel and tensile strength requirements in this special provision will be superseded by the special provisions for Warm Mix Asphalt and/or by the District special provision for Reclaimed Asphalt Pavement and Reclaimed Asphalt Shingles as applicable.

Mix Design Testing. Add the following to Article 1030.04 of the Standard Specifications:

“(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification test on gyratory specimens compacted by the Contractor. If the mix fails the Department’s verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

All new and renewal mix designs will be required to be tested, prior to submittal for Department verification meeting the following requirements:

(1)Hamburg Wheel Test criteria.

Asphalt Binder Grade	# Repetitions	Max Rut Depth (mm)
PG 70 -XX (or higher)	20,000	12.5
PG 64 -XX (or lower)	10,000	12.5

Note: For SMA Designs (N-80) the maximum rut depth is 6.0 mm at 20,000 repetitions.  
 For IL 4.75mm Designs (N-50) the maximum rut depth is 9.0mm at 15,000 repetitions.

(2) Tensile Strength Criteria. The minimum allowable conditioned tensile strength shall be 415 kPa (60 psi) for non-polymer modified performance graded (PG) asphalt binder and 550 kPa (80 psi) for polymer modified PG asphalt binder. The maximum allowable unconditioned tensile strength shall be 1380 kPa (200 psi).”

Production Testing.

Revise first paragraph of Article 1030.06(a) to read:

“(a) High ESAL and IL-4.75 Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for IL -4.75 it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture with a quantity of 3000 tons (2750 metric tons) or more according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”.”

Delete second paragraph of Article 1030.06 (a).

Revise first sentence in fourth paragraph of Article 1030.06 (a) to read:

“Before constructing the test strip, target values shall be determined by applying gradation correction factors to the JMF when applicable.”

Mixture sampled to represent the test strip shall include additional material sufficient for the Department to conduct Hamburg Wheel testing according to Illinois Modified AASHTO T324 (approximately 60 lb (27 kg) total).

Add the following to Article 1030.06 of the Standard Specifications:

“ (c) Hamburg Wheel Test. All HMA mixtures shall be sampled within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day’s production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.

The Department may conduct additional Hamburg Wheel Tests on production material as determined by the Engineer. If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria”

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria are being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

Basis of Payment. Revise the seventh paragraph of Article 406.14 of the Standard Specifications to read:

“For all mixes designed and verified under the Hamburg Wheel criteria, the cost of furnishing and introducing anti-stripping additives in the HMA will not be paid for separately, but shall be considered as included in the contract unit price of the HMA item involved.

No additional compensation will be awarded to the Contractor because of reduced production rates associated with the addition of the anti-stripping additive.”

### **STONE MATRIX ASPHALT (SMA) (DIST 1)**

Effective: April 1, 1997

Revised: November 1, 2013

Description. This Special Provision establishes and describes the responsibilities of the Contractor in producing and constructing Polymerized Hot Mix Asphalt Binder Course, Stone Matrix Asphalt, N 80, or Polymerized Hot Mix Asphalt Surface Course, Stone Matrix Asphalt, N 80. The work shall be according to Sections 1003, 1004, 1011, 1102, 406, 1030, and 1032 except as modified herein.

Revise the last sentence of the first paragraph of Article 1003.03 (a):

“Fine aggregate for SMA shall consist of Class B Quality stone sand.”

Revise the following note in Article 1004.03 (c) to read:

“3/ The coarse aggregate gradation(s) used shall be capable of being combined with FA 20 stone sand and mineral filler to meet the approved mix design and the mix requirements noted herein.”

Revise Article 1004.03 (e) to read:

“Absorption. For SMA the coarse aggregate shall also have water absorption  $\leq 2.0$ .”

Add the following to Article 1011.01 (c):

“Mineral filler shall be commercially manufactured mineral filler meeting gradation requirements of this article and the following additional requirement: Collected HMA baghouse dust may be used as Mineral Filler provided it meets the gradation outlined in this article and a separate mix design is created.”

Delete last sentence of second paragraph of Article 1102.01(a) (13) a.

Revise Article (h) to read:

“(h) Fiber Additive (Note 4)”

Add the following to Note 4 in Article 1030.02:

“Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T 305 requirements. The RAS shall be from a certified source that produces either Type 1 or Type 2. Material shall be in accordance with the District’s special provision for Reclaimed Asphalt Pavement and Reclaimed Asphalt Shingles (D-1).

The actual dosage rate will be determined by the Engineer.”

Revise the following note under Table 1 in Article 1032.05 (b) of Standard Specification:

“When SBS/SBR PG 76-22 or SBS/SBR PG 76-28 is specified for mixtures IL-4.75 or SMA, the elastic recovery shall be a minimum of 80.”

Mix Design.

The use of Reclaimed Asphalt Pavement (RAP) and use of Recycled Asphalt Shingles (RAS) will be permitted concurrently in the production of SMA mixtures. Material shall be in accordance with Special Provision for Recycled Asphalt Pavement & Recycled Asphalt Shingles (D-1).

The drain down shall be determined at the JMF Asphalt Binder content at the mixing temperature plus 30 °F.

Each specific SMA mixture design shall be submitted to and verified by the Department as detailed in the Department's current "Bituminous Mixture Design Verification Procedure". The Contractor shall submit samples of all appropriate materials to the Department at least six weeks prior to production for mixture design verification.

The polymer asphalt supplier shall provide the Contractor with the temperature viscosity curves.

The Contractor shall supply the average gradation and the gradation ranges (including the Master Band on the critical sieve, if required) for each aggregate and asphalt binder content and gradations for each recycled products designated for use in the mixture. This information shall be used to judge whether the aggregates are compatible to produce an acceptable mix.

Plant Requirements.

Asphalt Cement. The polymer modified asphalt cement shall be shipped, maintained and stored at the mix plant according to the manufacturer's requirements. Polymer asphalt cement shall be placed in an empty tank and not blended with other asphalt cements.

Replace second paragraph in Article 1102.01 (a) (13) a.:

"Only dust collected during the production of SMA may be returned to the SMA mixture. Any additional minus No. 200 (0.075 mm) material needed to produce the SMA shall be mineral filler meeting the requirements stated herein. As an option, collected bag-house dust may be used in lieu of manufactured mineral filler, provided; 1) there is enough available for the production of the SMA mix for the entire project and 2) a mix design was prepared with collected bag-house dust."

Add the following to Article 1102.01 (a) (13) b. 1.:

"The batch size shall not exceed 75 percent of pugmill size as rated by the Department.

The fibers are to be uniformly distributed prior to the injection of asphalt cement into the mixes."

Add the following to Article 1102.01(a) (13) b. 2.:

“The fiber shall be added to the aggregate and uniformly dispersed prior to the injection of asphalt cement

Fiber Supply System: The fiber system shall automatically adjust the feed rate to maintain the material within this tolerance at all times.”

Replace the following in Article 1102.014 (a) (13):

“c. Hot-Mix Storage. The mixture shall not be stored more than four hours without the approval of the Engineer. The Engineer will assess the drain down of the mix in making this determination.”

#### Mix Production.

The mixtures shall be produced at a temperature range recommended by the polymer asphalt supplier and approved by the Engineer to allow adequate compaction. The actual production temperature will be selected from the range by the Engineer based on individual plant characteristics and modifier used in the mixtures.

A manufacturer's representative from the polymer asphalt cement producer shall be present during each polymer mixture start-up and shall be available at all times during production and lay-down of the mix. A manufacturer's representative for the supplier/manufacture of the fibers and the equipment to introduce fibers into the mixture shall be present for calibration and first day of production (test strip).

#### Hauling/Laydown Equipment.

The Contractor shall provide a release agent that minimizes sticking to equipment and is acceptable to the Engineer. The Contractor shall furnish a laborer to ensure that all truck beds are clean and no excess release agent is used prior to being loaded. All trucks shall be insulated and tarped when hauling the mixture to the paver.

Add after second sentence of Table 1 Note 5 in Article 406.07 (a) the following:

“Except one of the  $T_B$  shall be 84 inches (2.14 m) wide and a weight of 315 pound per linear inch (PLI) (5.63 kg/mm).”

Additional breakdown rollers will be required if compaction is not achieved using the speeds listed in Article 406.07.

Mix Placement.

Add the following to Article 406.06 (b):

“(3) Special Conditions for SMA

- a. SMA mixture shall be placed on a dry surface when the temperature of the roadbed is above 60 °F (15 °C).
- b. The mixture shall be placed at 325 °F (152 °C) or a minimum mixture temperature recommended by the polymer asphalt supplier and approved by the Engineer. The mixture temperature shall be measured in the truck just prior to placement in the paver.”

Add to the end of the third paragraph of Article 406.06 (e) the following:

“For SMA mixtures, the paver speed shall not exceed 25 ft/min (8.8 m/min) during placement, provided the pavement shows no signs of rippling, chatter, or other distresses.”

Compaction shall commence immediately after the mixture has been placed. Compaction shall continue until the required density range has been achieved. Care shall be taken to avoid excessive aggregate breakage.

A QC/QA mixture Test Strip will be required. The Test Strip shall be constructed at a location approved by the Engineer to determine the mix properties, density, and laydown characteristics. An offsite test strip will be required if WMA technology is used. These test results and visual inspections on the mixture shall be used to make corrective adjustments if necessary.

Prior to the start of mix production and placement, the Engineer will review and approve all test strip results and rolling pattern. The test strip shall be constructed by the standard method except for the following changes:

- (a) The Test Strip shall consist of approximately 400 tons (375 metric tons). It shall contain two growth curves which shall be compacted by a static steel-wheeled roller
  - (1) Compaction Temperature. In order to make an accurate analysis of the density potential of the HMA mixture, the temperature of the mixture on the pavement at the beginning of the growth curve shall be 325 °F (152 °C).



- (2) **Compaction and Testing.** The Engineer will specify the roller(s) speed and number of passes required to obtain a completed growth curve. The nuclear gauge shall be placed near the center of the hot mat and the position marked for future reference. With the bottom of the nuclear gauge and the source rod clean, a 15 seconds nuclear reading (without mineral filler) shall be taken after each pass of the roller. Rolling shall continue until the maximum density is achieved and three consecutive passes show no appreciable increase in density or no evidence of destruction of the mat. The growth curve shall be plotted. No testing of initial passes shall be taken until the fourth pass is completed.
- (3) **Final Testing.** After the growth curve information is obtained, a final one minute nuclear reading, using mineral filler to eliminate surface voids, shall be taken at the marked position. This reading is used to adjust the maximum density reading obtained during the growth curve.
- (b) **Documentation.** The Test Strip and rolling pattern information (including growth curves) will be tabulated by the contractor and the original report submitted to the Engineer. Any change to the rolling pattern shall be approved by the Engineer.

The density of the finished SMA binder course shall be measured either by nuclear test methods or from cores obtained by the contractor at random locations. For the SMA surface course mixes containing steel slag aggregate only the core method will be accepted.

If the nuclear density potential of the mixture does not exceed 91.0 percent, the operation will cease until all test data is analyzed or a new mix design is produced.

In addition, other aspects of the mixture, such as appearance, segregation, uneven texture, flushing, or other evidence of mix problems, should be noted and corrective action taken immediately. The Engineer will determine the acceptability of the placed mixture. Unacceptable areas will be removed and replaced by the Contractor at no additional cost to the Department.

**Control Charts/Limits.**

Add and revise the following to Control Limits Table in Article 1030.05(d) (4) of the Standard Specifications:

“For SMA mixtures, Control charts/limits shall be according to QC/QA requirements except density shall be plotted on the control charts within the following control limits:

<b>Control Limits</b>	
<b>SMA</b>	
<u>Parameter</u>	<u>Individual Test</u>
Density	94 % - 97 %”

Basis of Payment.

Add the following to the end of Article 406.14:

“The plan quantities shall be adjusted using the actual approved binder and surface Mix Design’s  $G_{mb}$ .”

The test strip will be paid for at the contract unit price each for CONSTRUCTING TEST STRIP, which price shall not include the 400 tons (360 metric tons) of mix, as well as the appropriate testing, which will be paid for at the unit price in the contract for the item being placed.

**HOT MIX ASPHALT MIXTURE IL-4.75 (DIST 1)**

Effective: January 1, 2007

Revised: November 1, 2013

Description. This work shall consist of constructing Hot-Mix Asphalt (HMA) surface course or leveling binder with an IL-4.75 mixture. Work shall be according to Sections 406, 1030, 1031 and 1032 of the Standard Specifications except as modified herein.

Materials.

Revise Article 1030.02 (b), (c), (d) and (g) of the Standard Specifications to read:

(b) Fine aggregate (Note 1 and 5)

Note 5. The gradation for IL-4.75 shall be FA 1, FA 2, FA 20 or FA 22.

(c) Reclaimed or recycled material. Only processed FRAP or RAS will be permitted in the IL-4.75 mixture. Refer to D1 version for Reclaimed Asphalt Pavement and Reclaimed Asphalt Shingles special provision.

(d) Mineral Filler. Mineral filler shall conform to the requirements of Article 1011.01 of the Standard Specifications. Collected HMA baghouse dust may be used as Mineral Filler provided it meets the gradation outlined in Article 1011 of the Standard Specifications and a separate mix design is created.

(g) Asphalt Binder (AB). The AB shall be either Elvaloy or SBS/SBR with a PG 76-22 value. The AB shall meet the requirements of Article 1032.05(b) of the Standard Specifications; however the elastic recovery of the AB shall be 80 minimum.

The AB shall be shipped, maintained, and stored at the mix plant according to the manufacturer’s requirements. It shall be placed in an empty tank and not blended with other asphalt cements.

Mixture Design. The percentage of new natural sand shall not exceed 25% if FRAP or RAS is used. For designs without FRAP or RAS the sand fraction of the final blend shall be at least 50% manufacture stone sand.

Mixture Production. Plant modifications may be required to accommodate the addition of higher percentages of mineral filler as required by the JMF.

During production, mineral filler shall not be stored in the same silo as collected dust. This may require any previously collected bag house dust in a storage silo prior to production of the IL-4.75 mixture to be wasted. Only metered bag house dust may be returned back directly to the mix. Any additional minus No. 200 (75  $\mu$ m) material needed to produce the IL-4.75 shall be mineral filler.

As an option, collected bag-house dust may be used in lieu of manufactured mineral filler, provided; 1) there is enough available for the production of the IL-4.75 mix for the entire project and 2) a mix design was prepared with collected bag-house dust.

The mixture shall be produced within the temperature range recommended by the asphalt cement producer; but not less than 325 °F (165 °C).

The amount of moisture remaining in the finished mixture (at silo discharge) shall be less than 0.3 percent based on the weight of the test sample after drying.

Mixtures contain steel slag sand or aggregate having absorptions  $\geq$  2.5 percent shall have a silo storage plus haul time of not less than 1.5 hours.

#### Placement.

Revise Article 406.06 (b) (2) a. to read as follows:

“a. The surface shall be dry for at least 12 hours, and clean, prior to placement of the mixture.

As an option, the contractor will be allowed to use a heated drier, at no additional cost to the Department, to expedite the drying of the pavement. No mix will be placed in areas of standing water or areas that show evidence of moisture or dampness. The use of a heated drier will be stopped if the pavement shows signs of damaged.”

**HOT MIX ASPHALT MIXTURE IL-4.75 (DIST 1)**

Effective: January 1, 2007

Revised: November 1, 2013

Description. This work shall consist of constructing Hot-Mix Asphalt (HMA) surface course or leveling binder with an IL-4.75 mixture. Work shall be according to Sections 406, 1030, 1031 and 1032 of the Standard Specifications except as modified herein.

Materials.

Revise Article 1030.02 (b), (c), (d) and (g) of the Standard Specifications to read:

(b) Fine aggregate (Note 1 and 5)

Note 5. The gradation for IL-4.75 shall be FA 1, FA 2, FA 20 or FA 22.

(c) Reclaimed or recycled material. Only processed FRAP or RAS will be permitted in the IL-4.75 mixture. Refer to D1 version for Reclaimed Asphalt Pavement and Reclaimed Asphalt Shingles special provision.

(d) Mineral Filler. Mineral filler shall conform to the requirements of Article 1011.01 of the Standard Specifications. Collected HMA baghouse dust may be used as Mineral Filler provided it meets the gradation outlined in Article 1011 of the Standard Specifications and a separate mix design is created.

(g) Asphalt Binder (AB). The AB shall be either Elvaloy or SBS/SBR with a PG 76-22 value. The AB shall meet the requirements of Article 1032.05(b) of the Standard Specifications; however the elastic recovery of the AB shall be 80 minimum.

The AB shall be shipped, maintained, and stored at the mix plant according to the manufacturer's requirements. It shall be placed in an empty tank and not blended with other asphalt cements.

Mixture Design. The percentage of new natural sand shall not exceed 25% if FRAP or RAS is used. For designs without FRAP or RAS the sand fraction of the final blend shall be at least 50% manufacture stone sand.

Mixture Production. Plant modifications may be required to accommodate the addition of higher percentages of mineral filler as required by the JMF.

During production, mineral filler shall not be stored in the same silo as collected dust. This may require any previously collected bag house dust in a storage silo prior to production of the IL-4.75 mixture to be wasted. Only metered bag house dust may be returned back directly to the mix. Any additional minus No. 200 (75  $\mu$ m) material needed to produce the IL-4.75 shall be mineral filler.

As an option, collected bag-house dust may be used in lieu of manufactured mineral filler, provided; 1) there is enough available for the production of the IL-4.75 mix for the entire project and 2) a mix design was prepared with collected bag-house dust.

The mixture shall be produced within the temperature range recommended by the asphalt cement producer; but not less than 325 °F (165 °C).

The amount of moisture remaining in the finished mixture (at silo discharge) shall be less than 0.3 percent based on the weight of the test sample after drying.

Mixtures contain steel slag sand or aggregate having absorptions  $\geq 2.5$  percent shall have a silo storage plus haul time of not less than 1.5 hours.

Placement.

Revise Article 406.06 (b) (2) a. to read as follows:

“a. The surface shall be dry for at least 12 hours, and clean, prior to placement of the mixture.

As an option, the contractor will be allowed to use a heated drier, at no additional cost to the Department, to expedite the drying of the pavement. No mix will be placed in areas of standing water or areas that show evidence of moisture or dampness. The use of a heated drier will be stopped if the pavement shows signs of damaged.”

## **RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)**

Effective: November 1, 2012

Revise: November 1, 2013

Revise Section 1031 of the Standard Specifications to read:

### **“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

**1031.01 Description.** Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Bureau of Materials and Physical Research Policy Memorandum "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve . RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
- (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
  - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

**1031.02 Stockpiles.** RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc...).
- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.
  - (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, Superpave (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 inch single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.

- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present. However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of type 1 RAS with type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

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

**1031.03 Testing.** FRAP and RAS testing shall be according to the following.

- (a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.
- (1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).
  - (2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.
  - (3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

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

- (b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.
- (1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a  $\leq 1000$  ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.



- (2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

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

**1031.04 Evaluation of Tests.** Evaluation of tests results shall be according to the following.

- (a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag),  $G_{mm}$ . A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 30 (600 μm)	± 5 %
No. 200 (75 μm)	± 2.0 %
Asphalt Binder	± 0.3 %
$G_{mm}$	± 0.03 <sup>1/</sup>

1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the Illinois Test Procedure, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

- (c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision	
	FRAP	RAS
% Passing: <sup>1/</sup>		
1 / 2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	3.0%
No. 200	2.2%	2.5%
Asphalt Binder Content	0.3%	1.0%
G <sub>mm</sub>	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

- (d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

**1031.05 Quality Designation of Aggregate in RAP and FRAP.**

(a) RAP. The aggregate quality of the RAP for homogenous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (1) RAP from Class I, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
- (2) RAP from Superpave/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
- (3) RAP from Class I, Superpave/HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
- (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant prequalified by the Department for the specified testing. The consultant shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the BMRP Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

**1031.06 Use of FRAP and/or RAS in HMA.** The use of FRAP and/or RAS shall be a Contractor's option when constructing HMA in all contracts.

(a) FRAP. The use of FRAP in HMA shall be as follows.

- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

- (c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0% by weight of the total mix.

When FRAP, RAS or FRAP in conjunction with RAS is used, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures <sup>1/ 2/ 4/</sup>	Maximum % ABR		
	Binder/Leveling Binder	Surface	Polymer Modified <sup>3/</sup>
Ndesign			
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40
SMA N-80			30

- 1/ For HMA "All Other" (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 percent for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 percent, the required virgin asphalt binder grade shall be PG64-28.
- 3/ When the ABR for SMA or IL-4.75 is 15 percent or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.
- 4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10%.

**1031.07 HMA Mix Designs.** At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

- (a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design. A RAS stone bulk specific gravity (Gsb) of 2.500 shall be used for mix design purposes.

**1031.08 HMA Production.** HMA production utilizing FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

- (a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within  $\pm 0.5$  percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.
  - (1) Dryer Drum Plants.
    - a. Date, month, year, and time to the nearest minute for each print.
    - b. HMA mix number assigned by the Department.
    - c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

- d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
  - e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
  - f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
  - g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.
  - h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)
  - i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.
  - j. Accumulated mixture tonnage.
  - k. Dust Removed (accumulated to the nearest 0.1 ton)
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
  - b. HMA mix number assigned by the Department.
  - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
  - d. Mineral filler weight to the nearest pound (kilogram).
  - f. RAS and FRAP weight to the nearest pound (kilogram).
  - g. Virgin asphalt binder weight to the nearest pound (kilogram).
  - h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

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

**1031.09 RAP in Aggregate Surface Course and Aggregate Shoulders.** The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except “Non-Quality” and “FRAP”. The testing requirements of Article 1031.03 shall not apply. RAP used to construct aggregate surface course and aggregate shoulders shall be according to the current Bureau of Materials and Physical Research’s Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded, FRAP, or single sized will not be accepted for use as Aggregate Surface Course and Aggregate Shoulders.”

**GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)**

Effective: June 26, 2006  
 Revised: January 1, 2013

Add the following to the end of article 1032.05 of the Standard Specifications:

“(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65



Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, a 50 g sample of the GTR shall conform to the following gradation requirements:

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 μm)	95 ± 5
No. 50 (300 μm)	> 20

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 3) .....1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 3. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

**TEMPORARY PAVEMENT**

Effective: March 1, 2003

Revised: April 10, 2008

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

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

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

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

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

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

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

## **REMOVE AND REINSTALL HIGH TENSION CABLE MEDIAN BARRIER**

This work shall consist of the removal and reinstallation of existing high tension cable median barrier at locations shown in the plans and as directed by the Engineer. Reinstallation of all items shall be in accordance with the Supplemental Specification for Section 644. HIGH TENSION CABLE MEDIAN BARRIER as herein specified, and as directed by the Engineer.

The existing system is a "BRIFEN WIRE ROPE SAFETY FENCE (TL-4)" barrier system.

Removal Requirements: The contractor shall remove the cable and posts between the existing splice locations/turnbuckles. Cable length between splices is approximately 1000'. Cable shall be removed and spooled; posts and/or anchor systems and all remaining hardware shall be removed as required. All material shall be stored by the contractor in an approved location for reuse.

Concrete footings within the limits of the temporary crossovers and I-57 culverts shall be removed and disposed of by the Contractor according to Article 202.03. Any holes created by removal of the post footings shall be filled and compacted.

Ends of existing cable to remain shall be shielded by temporary concrete as depicted in Maintenance of Traffic Drawings. Ends of existing cable to remain shall be temporarily anchored with tail ropes (according to the manufactures specifications) and field terminated at a temporary spread concrete footer. (Brifen USA contact: Richard Butler 904-707-2728)

**Reinstallation Requirements:**

The cable median barrier shall be reinstalled according to the manufactures specifications. New mounting hardware and materials shall be according to the manufacturer's specifications.

End Anchorages will be reinstalled according to the specification HIGH TENSION CABLE MEDIAN BARRIER.

Concrete socketed footings for the posts and end anchorage foundations as shown in the plan details shall be a minimum depth of 42".

Method of Measurement: Remove and Reinstall High Tension Cable Median Barrier will be measured for payment in feet along the top cable. Terminal removal and replacement will be measured for payment complete in units of each. Removal of post footings and temporary anchor will not be measured separately but shall be included in the price of Remove and Reinstall High Tension Cable Median Barrier.

Basis of Payment: This work will be paid for at the contract unit price per foot for REMOVE AND REINSTALL HIGH TENSION CABLE MEDIAN BARRIER. Unit price shall include removal and storage of cable system and hardware; installation of temporary anchor; footing removal, disposal and backfill; removal of temporary anchor; reinstallation of cable and hardware; any miscellaneous additional new mounting hardware.

Removal of the existing terminals/end anchorages and associated foundations will be paid for at the contract per each for REMOVE HIGH TENSION CABLE MEDIAN BARRIER TERMINAL. Unit price shall include removal and storage of terminal system and hardware; foundation removal, disposal and backfill.

Reinstallation of the terminals/end anchorages and associated foundations and additional new hardware will be paid for at the contract per each for HIGH TENSION CABLE MEDIAN BARRIER TERMINALS.

New concrete footings and associated socket and reinforcement will be paid for at the contract per each for REPLACE HIGH TENSION CABLE GUARDPOST FOUNDATION.

**HIGH TENSION CABLE MEDIAN BARRIER**

All work shall consist of furnishing and installing a "BRIFEN WIRE ROPE SAFETY FENCE (TL-4)" barrier system, meeting the requirements of the Supplemental Specification for Section 644. HIGH TENSION CABLE MEDIAN BARRIER.

## **CHAIN LINK FENCE REMOVAL**

### **Description:**

This work consists of the removal and satisfactory disposal of existing chain link fence at the locations shown on the plans or as directed by the Engineer. This work shall be performed in accordance with the applicable portions of Section 201 of the Standard Specifications and as herein specified.

### **General:**

Removal shall include posts, fence fabric, fittings, appurtenances, attachments and concrete foundation. Any holes created by removal of the foundation shall be filled with clean earth fill to eliminate any hazard to the public and shall be included in the cost of CHAIN LINK FENCE REMOVAL.

Any signs mounted on the fence shall be removed, stored and re-erected in accordance with Article 107.25.

Disposal of removed materials shall be in accordance with Article 202.03.

### **Method of Measurement:**

Chain link fence removal shall be measured in linear feet along the top of the fence.

### **Basis of Payment:**

This work will be paid for at the contract unit price per foot for CHAIN LINK FENCE REMOVAL, which price shall be payment in full for all labor, tools, equipment and materials necessary to remove and dispose of existing chain link fence and restore the site as herein specified.

## **WOVEN WIRE FENCE REMOVAL**

### **Description:**

This work consists of removal and satisfactory disposal of existing woven wire fence at the locations shown on the plans or as directed by the Engineer.

Removal shall include posts, fence fabric, fittings, appurtenances, attachments, and foundations. Any resulting holes shall be filled with clean earth to eliminate any hazard to the public. Removed material shall be disposed of off the right-of-way and in accordance with Article 202.03.

### **Method of Measurement:**

WOVEN WIRE FENCE REMOVAL will be measured for payment in linear feet along the top of fence.

**Basis of Payment:**

This work will be paid at the contract unit price per foot for WOVEN WIRE FENCE REMOVAL which price shall be payment in full for all labor, tools, equipment, and materials necessary to remove and dispose of the existing woven wire fence and restore the site as herein specified.

**CONCRETE MEDIAN, TYPE SB (SPECIAL)**

**Description.**

This work shall consist of constructing concrete median at the locations depicted on the plans. This work shall be constructed in accordance with Section 606 of the Standard Specifications except as herein modified.

The dimensions of the concrete median shall be in accordance with the detail in the plans. Median Nose shall be constructed according to Standard 606301.

**Basis of Payment.**

Concrete median will be paid for at the contract unit price per square foot for CONCRETE MEDIAN, TYPE SB (SPECIAL).

**SLEEPER SLAB**

**Description:**

This work consists of constructing a sleeper slab (reinforced concrete grade beam) at the locations shown on the plans or as directed by the Engineer. This work shall be performed in accordance with the applicable portions of Section 420 of the Standard Specifications, the details in the plans' and as herein specified.

**Materials:**

Concrete shall be Class SI meeting the requirements of Section 1020.  
Reinforcement bars shall be Grade 60 meeting the requirements of Section 1006.10.

Reinforcement bars, bond breaker, preformed joint filler and sealer shall not be paid for separately, but shall be included in the unit price for the sleeper slab.

Excavation, except excavation in rock, shall be paid as Earth Excavation.

**Method of Measurement:**

SLEEPER SLAB will be measured for payment in place along the separation joint, computed in lineal feet.

**Basis of Payment:**

This work will be paid for at the contract unit price per foot for SLEEPER SLAB, which price shall be payment in full for all materials, labor, tools, equipment and incidentals necessary to complete the work as specified.

**TRENCH BACKFILL**

Description.

This work shall be constructed in accordance with Section 208 of the Standard Specifications except as herein modified.

Underdrain backfill material shall be in accordance with Article 1003.04.

**COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (DISTRICT ONE)**

Effective: November 1, 2011

Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of  $\pm 2.0$  percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

**DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)**

Effective: April 1, 2011

Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) ..... 1030
- “(j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)''

Revise Article 603.07 of the Standard Specifications to read:

**“603.07 Protection Under Traffic.** After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting ± 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer’s specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03.”

**AGGREGATE SUBGRADE IMPROVEMENT (D-1)**

Effective: February 22, 2012

Revised: November 1, 2013

Add the following Section to the Standard Specifications:

“SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

**303.01 Description.** This work shall consist of constructing an aggregate subgrade improvement.

**303.02 Materials.** Materials shall be according to the following.

Item	Article/Section	
(a)	Coarse Aggregate	1004
(b)	Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3)	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradations CS 01 or CS 02 but shall not exceed 40 percent of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in. (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradations CS 01 or CS 02 are used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.

**303.03 Equipment.** The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer.

**303.04 Soil Preparation.** The stability of the soil shall be according to the Department’s Subgrade Stability Manual for the aggregate thickness specified.

**303.05 Placing Aggregate.** The maximum nominal lift thickness of aggregate gradations CS 01 or CS 02 shall be 24 in. (600 mm).



**303.06 Capping Aggregate.** The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

**303.07 Compaction.** All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

**303.08 Finishing and Maintenance of Aggregate Subgrade Improvement.** The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

**303.09 Method of Measurement.** This work will be measured for payment according to Article 311.08.

**303.10 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

“ **1004.06 Coarse Aggregate for Aggregate Subgrade Improvement.** The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.
- (c) Gradation.
  - (1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01 or CS 02.

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS				
	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)				
	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

- (2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.
- (3) Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

**SURFACE ROUGHENING**

Steep slopes shall be surface roughened as part of the seed bed preparation. This work shall be in accordance with Section 250 of the Standard Specifications except as modified herein.

After the first paragraph of Article 250.05 add the following paragraph:

All slopes 1:3 (vertical to horizontal) and steeper shall be surface roughened by tracking with tracked machinery. The machinery shall be operated up and down the slope to leave horizontal depressions in the prepared seed bed. Back-blading shall not be permitted during the final grading operation. The number of machinery passes shall be limited to minimize soil compaction.

After the third paragraph of Article 250.10 add the following paragraph:

Surface roughening will not be paid separately, but is included in the cost of Seeding, of the type specified.

**EMBANKMENT I**

Effective: March 1, 2011  
 Revised: November 1, 2013

Description. This work shall be according to Section 205 of the Standard Specifications except for the following.

Material. All material shall be approved by the District Geotechnical Engineer. The proposed material must meet the following requirements.

- a) The laboratory Standard Dry Density shall be a minimum of 90 lb/cu ft (1450 kg/cu m) when determined according to AASHTO T 99 (Method C).
- b) The organic content shall be less than ten percent determined according to AASHTO T 194 (Wet Combustion).
- c) Soils which demonstrate the following properties shall be restricted to the interior of the embankment and shall be covered on both the sides and top of the embankment by a minimum of 3 ft (900 mm) of soil not considered detrimental in terms of erosion potential or excess volume change.
  - 1) A grain size distribution with less than 35 percent passing the number 75 um (#200) sieve.
  - 2) A plasticity index (PI) of less than 12.
  - 3) A liquid limit (LL) in excess of 50.
- d) Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.
- e) The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

### **CONSTRUCTION REQUIREMENTS**

Samples. Embankment material shall be sampled, tested, and approved before use. The contractor shall identify embankment sources, and provide equipment as the Engineer requires, for the collection of samples from those sources. Samples will be furnished to the Geotechnical Engineer a minimum of three weeks prior to use in order that laboratory tests for approval and compaction can be performed. Embankment material placement cannot begin until tests are completed and approval given.

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 6 inches (150 mm) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlaying lifts. The disk must have a minimum blade diameter of 24 inches (600 mm).

When embankments are to be constructed on hillsides or existing slopes that are steeper than 3H:1V, steps shall be keyed into the existing slope by stepping and benching as shown in the plans or as directed by the engineer.

Compaction. Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart.

When tested for density in place each lift shall have a maximum moisture content as follows.

- a) A maximum of 110 percent of the optimum moisture for all forms of clay soils.
- b) A maximum of 105 percent of the optimum moisture for all forms of clay loam soils.

Stability. The requirement for embankment stability in Article 205.04 will be measured with a Dynamic Cone Penetrometer (DCP) according to the test method in the IDOT Geotechnical Manual. The penetration rate must be equal or less than 1.5 inches (38 mm) per blow.

Basis of Payment. This work will not be paid separately but will be considered as included in the various items of excavation.

#### **SIGN SHOP DRAWING SUBMITTAL**

Effective: January 22, 2013

Add the following paragraph to Article 720.03:

“Shop drawings will be required, according to Article 105.04, for all Arterials/Expressway signs except standards/highway signs covered in the MUTCD. Shop drawings shall be submitted to the Engineer for review and approval prior to fabrication. The shop drawings shall include dimensions, letter sizing, font type, colors and materials.”

#### **SEEDING, CLASS 4 (MODIFIED)**

This Special Provision revises Section 250 of the Standard Specifications for Road and Bridge Construction. Omit Perennial Ryegrass from the Class 4 Native Grass seed mix. All native species included in the seed mix shall be local genotype and have a source within a 150 mile radius of the project site.

**SEEDING, CLASS 4B (MODIFIED)**

This Special Provision revises Section 250 of the Standard Specifications for Road and Bridge Construction. The Class 4B seed mix shall be modified as described below.

<u>Species</u>	<u>lb/acre</u>
<i>Carex scoparia</i> (Lance-fruited Oval Sedge)	0.25
<i>Carex vulpinoidea</i> (Brown Fox Sedge)	0.25
<i>Elymus virginicus</i> (Virginia Wild Rye)	32.00
<i>Glyceria striata</i> (Fowl Manna Grass)	0.25
<i>Juncus dudleyi</i> (Dudley's Rush)	0.10
<i>Juncus torreyi</i> (Torrey's Rush)	0.10
<i>Leersia oryzoides</i> (Rice Cut Grass)	0.50
<i>Scirpus atrovirens</i> (Dark Green Bulrush)	0.25
<i>Echinochloa crusgalli</i> (Barnyard Grass)	64.00
<i>Lolium multiflorum</i> (Annual ryegrass)	80.00
<i>Aster novae-angliae</i> (New England Aster)	0.25
<i>Asclepias incarnata</i> (Swamp Milkweed)	0.25
<i>Helenium autumnale</i> (Sneezeweed)	0.25
<i>Verbena hastata</i> (Blue Vervain)	0.25

**SEEDING, CLASS 5 (MODIFIED)**

This Special Provision revises Section 250 of the Standard Specifications for Road and Bridge Construction. The Class 5 Forbs with Annuals seed mix shall be modified as described below.

Omit Annuals Mixture.

Forb Mixture

<u>Species</u>	<u>lb/acre</u>
<i>Aster novae-angliae</i> (New England Aster)	0.19
<i>Aster laevis</i> (Smooth Blue Aster)	0.19
<i>Heliopsis helianthoides</i> (Ox-eye Sunflower)	0.25
<i>Monarda fistulosa</i> (Wild Bergamot)	0.25
<i>Ratibida pinnata</i> (Yellow Coneflower)	0.25
<i>Rudbeckia hirta</i> (Black-eyed Susan)	0.50
<i>Silphium laciniatum</i> (Compass Plant)	0.25
<i>Silphium terebinthinaceum</i> (Prairie Dock)	0.25
<i>Solidago rigida</i> (Stiff Goldenrod)	0.19

All native species included in the seed mix shall be of local genotype and have a source within a 150 mile radius of the project site.

**PERENNIAL PLANTS, WETLAND EMERGENT TYPE**

This Special Provision revises Section 254 of the Standard Specifications for Road and Bridge Construction. Perennial Plants, Wetland Emergent Type to be provided in Units of 100 each 2” diameter by 4” deep plugs. Each Unit shall include the following mix of species.

Species	Percent of Each Unit
<i>Iris virginica shrevei</i> (Blue Flag)	10
<i>Saururus cernuus</i> (Lizard’s Tail)	20
<i>Scirpus acutus</i> (Hard-stemmed Bulrush)	20
<i>Scirpus pungens</i> (Chairmaker’s Rush)	20
<i>Sparganium eurycarpum</i> (Common Bur Reed)	15
<i>Spartina pectinata</i> (Prairie Cord Grass)	15

All native species included in the seed mix shall be of local genotype and have a source within a 150 mile radius of the project site.

**WEED CONTROL, AQUATIC**

Description: This work shall consist of the application of herbicide (Aquaneat or equal) for weed control in wet areas. Applications may only be made for the control of undesirable vegetation in and around standing and flowing water. Equal formulation must be approved to use in or near water.

Materials: The herbicide (Aquaneat or equal) shall have the following formulation and must be labeled for use in wetlands and over water:

Active Ingredient:

*Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt	53.80%
<u>Inert Ingredients</u>	<u>46.20%</u>
 TOTAL	 100.00%

The Contractor shall submit a certificate, including the following, prior to starting work:

- 1) The chemical names of the compound and the percentage by weight of the ingredients which must match the above specified formulation.
- 2) A statement that the material is in a solution which will form a satisfactory emulsion for use when diluted with water for normal spraying conditions.
- 3) A statement that the Aquaneat or equal, when mixed with water, will be completely soluble and dispersible and remain in suspension with continuous agitation.

- 4) A statement describing the products proposed for use when the manufacturer of Aquaneat or equal requires that surfactants, drift control agents, or other additives be used with the product. These tank mix additives shall be used as specified by the manufacturer. Required additives will not be paid for separately.

**All material shall be brought to the spray area in the original, unopened containers supplied by the manufacturer.**

Application Rate: The Aquaneat or equal herbicide shall be applied at the rate of 4 pints per acre.

Aquaneat or equal formulation shall be diluted with a minimum of twenty- five (25) gallons of water and applied as a mixture. Water for dilution of the mixture will not be paid for separately.

Method of Measurement: Weed Control, Aquatic will be measured for payment in gallons of undiluted Habitat or equal applied as specified. The gallons for payment will be determined based on the gallons specified on the label attached to the original container supplied by the manufacturer.

Basis of Payment: Weed Control, Aquatic will be paid for at the contract unit price per gallon for WEED CONTROL, AQUATIC. Water for dilution of the mixture and additives required for application will not be paid for as separate items, but the costs shall be considered as included in the contract price for WEED CONTROL, AQUATIC, and no additional compensation will be allowed.

## **PLANTING WOODY PLANTS**

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

**Delete Article 253.03 Planting Time and substitute the following:**

Spring Planting. This work shall be performed between March 15th and May 31st except that evergreen planting shall be performed between March 15th and April 30th in the northern zone.

**Add the following to Article 253.03 (a) (2) and (b):**

All plants shall be obtained from Illinois Nurserymen's Association or appropriate state chapter nurseries. All trees and shrubs shall be dug prior to leafing out (bud break) in the spring or when plants have gone dormant in the fall, except for the following species which are only to be dug prior to leafing out in the spring:

- Maple (*Acer* spp.)
- Buckeye (*Aesculus* spp.)
- Serviceberry (*Amelanchier* spp.)
- American Hornbeam (*Carpinus caroliniana*)
- Hickory (*Carya* spp.)
- Hackberry (*Celtis occidentalis*)
- Hawthorn (*Crataegus* spp.)
- Black Walnut (*Juglans nigra*)
- Crabapple (*Malus* spp.)
- Black Tupelo (*Nyssa sylvatica*)
- American Hophornbeam (*Ostrya virginiana*)
- Oak (*Quercus* spp.)
- Baldcypress (*Taxodium distichum*)
- American Linden (*Tilia americana*)

Fall Planting. This work shall be performed between October 1<sup>st</sup> and November 30<sup>th</sup> except that evergreen planting shall be performed between August 15<sup>th</sup> and October 15<sup>th</sup>.

Planting dates are dependent on species of plant material and weather. Planting might begin or end prior or after above dates as approved by the Engineer. Do not plant when soil is muddy or during frost. No plant material shall be installed prior to the final grade of the planting soil. Trees must be installed first to establish proper layout and to avoid damage to other plantings.

**Add the following to Article 253.05 Transportation:**

Cover plants during transport. Plant material transported without cover shall be automatically rejected.

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

The Contractor shall be responsible for all plant layout. The layout must be performed by qualified personnel. The planting locations must be laid out as shown in the landscape plan. This will require the use of an engineer's scale to determine some dimensions. Tree locations within each planting area shall be marked with a different color stake/flag and labeled to denote the different tree species. Shrub beds limits must be painted. The Engineer will contact the Roadside Development Unit at (847) 705-4171 to approve the layout prior to installation. Allow a minimum of seven (7) working days prior to installation for approval.



**Delete Article 253.08 Excavation of Plant Holes and substitute the following:**

Protect structures, utilities, sidewalks, knee walls, fences, pavements, utility boxes, other facilities, lawns and existing plants from damage caused by planting operations.

Holes for trees shall be dug at the location indicated by the marking stakes. Holes for shrubs shall be dug within the marked outline of the planting bed. The spacing of plants will be designated on the plans. Spacing shall be measured from center-to-center, and alternate rows shall be staggered.

Excavate with sides vertical, bottom flat but with high center for drainage. Deglaze sides. The planting hole shall be twice the diameter of the root ball if possible, but in no case shall the hole be less than twelve (12) inches wider. Any soil covering the tree's root flair shall be removed to expose the crown, along with any secondary root growth, prior to planting. Remove all excavated subsoil from the site and dispose as specified in Article 202.03. The excavated material shall not be stockpiled on turf or in ditches.

**Delete the third and fourth paragraphs of Article 253.10 Planting Procedures and Article 253.10 (a) and substitute the following:**

Trees, shrubs, and vines shall be thoroughly watered with a method approved by the Engineer.

Approved watering equipment shall be at the site of the work and in operational condition PRIOR TO STARTING the planting operation and DURING all planting operations OR PLANTING WILL NOT BE ALLOWED.

Set plants in the excavated hole with top of ball 2 to 3 inches above finished grade. Add soil as required under ball to achieve plumb. The burlap shall be loosened and scored to provide the root system quick contact with the soil. All ropes or wires shall be removed from the root ball and tree trunk.

The hole shall be half (1/2) filled with soil, firmly packed, then saturated with water. After the water has soaked in, more soil shall be added to the top of the hole, and then the hole shall be saturated again. Maintain plumb during backfilling. Visible root flair shall be left exposed, uncovered by the addition of soil. By mounding up the soil around the hole, create a saucer depression around the tree to hold future water. In most cases, the backfill around the root ball shall be the same soil that was removed from the hole. Where rocks, gravel, heavy clay or other debris are encountered, clean top soil shall be used. Do not backfill excavation with subsoil.

**Delete Article 253.11 and substitute the following:**

Within 48 hours after planting, mulch shall be placed around all plants in the entire mulched bed or at the base of each tree to its dripline specified to a depth of 4 inches (100 mm). No weed barrier fabric will be required for tree and shrub planting. Pre-emergent Granular Herbicide will be used instead of weed barrier fabric. The Pre-emergent Granular Herbicide shall be applied prior to mulch placement. See specification for Weed Control, Pre-Emergent Granular Herbicide.

The mulch shall consist of wood chips or shredded tree bark free not to exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones, and clods. A sample and request for material inspection form must be supplied to the Engineer for approval prior to performing any work.

Care shall be taken not to bury leaves, stems, or vines under mulch material. The mulch shall be pulled away from the tree trunk, allowing the root flair at the base of the tree to be exposed and free of mulch contact. All finished mulch areas shall be left smooth and level to maintain uniform surface and appearance. After the mulch placement, any debris or piles of material shall be immediately removed from the right of way, including raking excess mulch out of turf areas.

**Delete Article 253.12 Wrapping and substitute the following:**

Any paper or cardboard trunk wrap must be removed before placing the tree in the tree hole in order to inspect the condition of the trunks. Within 48 hours, "A layer of commercial screen wire mesh shall be wrapped around the trunk of all deciduous trees. The screen wire shall be secured to itself with staples or single wire strands tied to the mesh. Trees shall be wrapped at time of planting, before the installation of mulch. The lower edge of the screen wire shall be in continuous contact with the ground and shall extend up to the lowest major branch.

**Add the following to Article 253.13 Bracing:**

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

**Add the following to the first paragraph of Article 253.14 Period of Establishment:**

Prior to being accepted, the plants shall endure a period of establishment. This period shall begin in April and end in December of the same year.

**Delete the last sentence of the first paragraph of Article 253.15 Plant Care and substitute the following:**

This may require pruning, cultivating, tightening and repairing supports, repair of wrapping, and furnishing and applying sprays as necessary to keep the plants free of insects and disease. The Contractor shall provide plant care a minimum of every two weeks, or within 3 days following notification by the Engineer. All requirements for plant care shall be considered as included in the cost of the contract.

**Delete the first paragraph of Article 253.15 Plant Care (a) and substitute the following:**

During plant care additional watering shall be performed at least every two weeks during the months of May through December. The contractor shall apply a minimum of 35 gallons of water per tree, 25 gallons per large shrub, 15 gallons per small shrub, and 4 gallons per vine. The Engineer may direct the Contractor to adjust the watering rate and frequency depending upon weather conditions.

**Add the following to Article 253.15 Plant Care (d):**

The contractor shall inspect all trees, shrubs, and vines for pests and diseases at least every two weeks during the months of initial planting through final acceptance. Contractor must identify and monitor pest and diseases and determine action required to maintain the good appearance, health and, top performance of all plant material. Contractor shall notify the Engineer with their inspection findings and recommendations within twenty-four hours of findings. The recommendations for action by the Contractor must be reviewed and by the Engineer for approval/rejection. All approved corrective activities will be considered as included in the cost of the contract and shall be performed within 48 hours following notification by the Engineer.

**Delete Article 253.17 Basis of Payment and substitute the following:**

This work will be paid for at the contract unit price per each for TREES, SHRUBS, or VINES, of the species, root type, and plant size specified; and per unit for SEEDLINGS. Payment will be made according to the following schedule.

- (a) Initial Payment. Upon completion of planting, mulch covering, wrapping, and bracing, 75 percent of the pay item(s) will be paid.
- (b) Final Payment. Upon inspection and acceptance of the plant material, or upon execution of a third party bond, the remaining 25 percent of the pay item(s) will be paid.”
- (c) The placement of Pre-emergent Herbicide shall be paid for at the contract unit price for WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE.

## **PLANTING PERENNIAL PLANTS**

Effective: January 1, 2012

Revised: February 15, 2012

Revise Article 254 of the Standard Specifications to read:

### **Article 254.05 Layout of Planting.**

The Contractor shall place the marking flags and outline each area for mass or solid planting. The Engineer will contact the Roadside Development Unit at (847) 705-4171 prior to planting to verify the layout. Allow a minimum of seven (7) working days prior to installation for approval.

### **Article 254.06 Planting Procedures.**

Disposal of sod and debris (rock, stones, concrete, bottles, plastic bags, etc.) shall be removed from the perennial planting bed as specified in Article 202.03.

(b) When planting perennials in bed areas shown on the plans or as directed by the Engineer, the following work shall be performed prior to placement of mulch:

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

(2) Pre-emergent Herbicide shall be used in the perennial beds prior to the placement of mulch. See specification for Weed Control, Pre-emergent Herbicide.

(3) Compost Furnish and Place shall be applied to the planting beds to a depth of 2-inch (100 mm) then tilled into the soil to a depth of 6-inches (150 mm) to amend the existing topsoil.

(4) Coarse Sand (FA2) 28 lbs/sq. ft. (140 kg/sq m) shall be placed on the planting beds to a depth of 2-inch (100 mm) then tilled into the soil to a depth of 6-inches (150 mm) to amend the existing topsoil.

### **Article 254.07 Mulching.**

Within 24 hours, the entire perennial plant bed shall be mulched to a depth of with 2 inches (75 mm) of fine grade Shredded Mulch. A mulch sample shall be submitted to the Engineer for approval 72 hours prior to placing.

**254.08 Period of Establishment.**

Period of Establishment for the various types of perennial plants shall be as follows.

(b) Perennial plants must undergo a 30-day period of establishment. Additional watering shall be performed at least twice a week for four weeks following installation. Water shall be applied at the rate of 2 gallons per square foot. Should excess moisture prevail, the Engineer may delete any or all of the additional watering cycles. In severe weather, the Engineer may require additional watering.

A spray nozzle that does not damage small plants must be used when watering perennial plants. Water shall be applied at the base of the plant to keep as much water as possible off plant leaves. Watering of plants in beds shall be applied in such a manner that all plant holes are uniformly saturated without allowing water to flow beyond the periphery of the bed.

During the period of establishment, weeds and grass growth shall be removed from within the mulched perennial beds. This weeding shall be performed twice during the 30 day period of establishment. The Contractor will not be relieved in any way from the responsibility for unsatisfactory plants due to the extent of weeding.

The weeding may be performed in any manner approved by the Engineer provided the weed and grass growth, including their roots and stems, are removed from the area specified. Mulch disturbed by the weeding operation shall be replaced to its original condition. All debris that results from this operation must be removed from the right-of-way and disposed of at the end of each day in accordance with Article 202.03.

At the end of the period of establishment, the Contractor will be permitted to replace any unacceptable plants and shall thoroughly weed all the beds.

**254.09 Method of Measurement.**

This work will be measured for payment in units of 100 perennial plants of the type and size specified. Measurement for payment of this work will not be performed until at the end of the 30 day establishment period for the replacement planting. Only plants that are in place and alive at the time of measurement will be measured for payment, except that if fewer than 25 percent of the plants are acceptable, a quantity equal to 25 percent of the number of units of plants originally planted will be considered measured for payment.

Selective Mowing Stakes will be measured for payment as each in place.

Pre-emergent Herbicide will be measured for payment as specified in Weed Control, Pre-emergent Granular Herbicide.

Compost Furnish and Place will be measured for payment as specified in Art. 211.07.

Coarse Sand (FA2) will be measured for payment as specified in Coarse Sand Placement.

**254.10 Basis of Payment.**

This work will be paid for at the contract unit price per unit for PERENNIAL PLANTS, of the type and size specified.

Selective mowing stakes will be paid for at the contract unit price per each for SELECTIVE MOWING STAKES.

Pre-emergent Herbicide will be paid for as specified in WEED CONTROL, PRE-EMERGENT HERBICIDE.

Compost Furnish and Place will be paid for as specified in Art. 211.08.

Coarse Sand (FA2) will be paid for as specified in COARSE SAND PLACEMENT.

Payment for Shredded Mulch shall be included in contract unit price of the perennial plant pay item.

**WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE**

Description: This work shall consist of spreading a pre-emergent granular herbicide in areas as shown on the plans or as directed by the Engineer. This item will be used in mulched plant beds and mulch rings.

Materials: The pre-emergent granular herbicide (Snapshot 2.5 TG or equivalent) shall contain the chemicals Trifluralin 2% active ingredient and Isoxaben with 0.5% active ingredient. The herbicide label shall be submitted to the Engineer for approval at least seventy-two (72) hours prior to application.

Method: The pre-emergent granular herbicide shall be used in accordance with the manufacturer's directions on the package. The granules are to be applied prior to mulching.

Apply the granular herbicide using a drop or rotary-type designed to apply granular herbicide or insecticides. Calibrate application equipment to use according to manufacturer's directions. Check frequently to be sure equipment is working properly and distributing granules uniformly. Do not use spreaders that apply material in narrow concentrated bands. Avoid skips or overlaps as poor weed control or crop injury may occur. More uniform application may be achieved by spreading half of the required amount of product over the area and then applying the remaining half in swaths at right angles to the first. Apply the granular herbicide at the rate of 100 lbs/acre (112 kg/ha) or 2.3 lbs/1000 sq. ft. (11.2 kg/1000 sq. meters).

Method of Measurement: Pre-emergent granular herbicide will be measured in place in Pounds (Kilograms) of Pre-emergent Granular Herbicide applied. Areas treated after mulch placement shall not be measured for payment.

Basis of Payment: This work will be paid for at the contract unit price per pound (kilogram) of WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE which price shall include all materials, equipment, and labor necessary to complete the work as specified.

## **GENERAL ELECTRICAL REQUIREMENTS**

Effective: January 1, 2012

Add the following to Article 801 of the Standard Specifications:

“Maintenance transfer and Preconstruction Inspection:

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

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side.. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

Condition of Existing Systems. The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition.”

Add the following to the 1<sup>st</sup> paragraph of Article 801.05(a) of the Standard Specifications:

“Items from multiple disciplines shall not be combined on a single submittal and transmittal. Items for lighting, signals, surveillance and CCTV must be in separate submittals since they may be reviewed by various personnel in various locations.”

Revise the second sentence of the 5<sup>th</sup> paragraph of Article 801.05(a) of the Standard Specifications to read:

“The Engineer will stamp the submittals indicating their status as ‘Approved’, ‘Approved as Noted’, ‘Disapproved’, or ‘Information Only’.

Revise the 6<sup>th</sup> paragraph of Article 801.05(a) of the Standard Specifications to read:

Resubmittals. All submitted items reviewed and marked ‘Approved as Noted’, or ‘Disapproved’ are to be resubmitted in their entirety with a disposition of previous comments to verify contract compliance at no additional cost to the state unless otherwise indicated within the submittal comments.”

Revise Article 801.11(a) of the Standard Specifications to read:

Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance the of existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems is specified elsewhere and will be paid for separately



Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.”

Add the following to Section 801 of the Standard Specifications:

“Lighting Cable Identification. Each wire installed shall be identified with its complete circuit number at each termination, splice, junction box or other location where the wire is accessible.”

“Lighting Cable Fuse Installation. Standard fuse holders shall be used on non-frangible (non-breakaway) light pole installations and quick-disconnect fuse holders shall be used on frangible (breakaway) light pole installations. Wires shall be carefully stripped only as far as needed for connection to the device. Over-stripping shall be avoided. An oxide inhibiting lubricant shall be applied to the wire for minimum connection resistance before the terminals are crimped-on. Crimping shall be performed in accordance with the fuse holder manufacturer's recommendations. The exposed metal connecting portion of the assembly shall be taped with two half-lapped wraps of electrical tape and then covered by the specified insulating boot. The fuse holder shall be installed such that the fuse side is connected to the pole wire (load side) and the receptacle side of the holder is connected to the line side.”

Revise the 2<sup>nd</sup> paragraph of Article 801.16 of the Standard Specifications to read:

“When the work is complete, and seven days before the request for a final inspection, the full-size set of contract drawings. Stamped “RECORD DRAWINGS”, shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor’s supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible.”

Add the following to Article 801.16 of the Standard Specifications:

"In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following electrical components being installed, modified or being affected in other ways by this contract:

- Last light pole on each circuit
- Handholes
- Conduit roadway crossings
- Controllers
- Control Buildings
- Structures with electrical connections, i.e. DMS, lighted signs.
- Electric Service locations
- CCTV Camera installations
- Fiber Optic Splice Locations

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

1. Description of item
2. Designation or approximate station if the item is undesignated
3. Latitude
4. Longitude

Examples:

Equipment Description	Equipment Designation	Latitude	Longitude
CCTV Camera pole	ST42	41.580493	-87.793378
FO mainline splice handhole	HHL-ST31	41.558532	-87.792571
Handhole	HH at STA 234+35	41.765532	-87.543571
Electric Service	Elec Srv	41.602248	-87.794053
Conduit crossing	SB IL83 to EB I290 ramp SIDE A	41.584593	-87.793378
Conduit crossing	SB IL83 to EB I290 ramp SIDE B	41.584600	-87.793432
Light Pole	DA03	41.558532	-87.792571
Lighting Controller	X	41.651848	-87.762053
Sign Structure	FGD	41.580493	-87.793378
Video Collection Point	VCP-IK	41.558532	-87.789771
Fiber splice connection	Toll Plaza34	41.606928	-87.794053

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 100 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 5 meter accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

## **ELECTRIC SERVICE INSTALLATION**

Effective: January 1, 2012

**Description.** This item shall consist of all material and labor required to extend, connect or modify the electric services, as indicated or specified, which is over and above the work performed by the utility. Unless otherwise indicated, the cost for the utility work, if any, will be reimbursed to the Contractor separately under ELECTRIC UTILITY SERVICE CONNECTION. This item may apply to the work at more than one service location and each will be paid separately.

**Materials.** Materials shall be in accordance with the Standard Specifications.

## **CONSTRUCTION REQUIREMENTS**

**General.** The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not included by other contract pay items required to complete the electric service work in complete compliance with the requirements of the utility.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein

**Method Of Measurement.** Electric Service Installation shall be counted, each.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **ELECTRIC SERVICE INSTALLATION** which shall be payment in full for the work specified herein.

## **ELECTRIC UTILITY SERVICE CONNECTION (COMED)**

Effective: January 1, 2012

**Description.** This item shall consist of payment for work performed by ComEd in providing or modifying electric service as indicated. THIS MAY INVOLVE WORK AT MORE THAN ONE ELECTRIC SERVICE. For summary of the Electrical Service Drop Locations see the schedule contained elsewhere herein.

### **CONSTRUCTION REQUIREMENTS**

**General.** It shall be the Contractor's responsibility to contact ComEd. The Contractor shall coordinate his work fully with the ComEd both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement. **Please contact ComEd, New Business Center Call Center, at 866 NEW ELECTRIC (1-866-639-3532) to begin the service connection process. The Call Center Representatives will create a work order for the service connection. The representative will ask the requestor for information specific to the request. The representative will assign the request based upon the location of project.**

The Contractor should make particular note of the need for the earliest attention to arrangements with ComEd for service. In the event of delay by ComEd, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for electric service within 30 days of execution.

**Method Of Payment.** The Contractor will be reimbursed to the exact amount of money as billed by ComEd for its services. Work provided by the Contractor for electric service will be paid separately as described under ELECTRIC SERVICE INSTALLATION. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

For bidding purposes, this item shall be estimated as \$2000.00

**Basis Of Payment.** This work will be paid for at the contract lump sum price for **ELECTRIC UTILITY SERVICE CONNECTION** which shall be reimbursement in full for electric utility service charges.

**Designers Note:** The estimate of cost of service connections for bidding purposes shall be provided by the Designer or Design Consultant.

## **UNDERGROUND RACEWAYS**

Effective: January 1, 2012

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduit shall have a minimum depth of 30-inches (700 mm) below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12”) or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped. The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap. The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125”) thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.”

Add the following to Article 810.04(c) of the Standard Specifications:

“Coilable non-metallic conduit shall be machine straightened to remove the longitudinal curvature caused by coiling the conduit onto reels prior to installing in trench, encasing in concrete or embedding in structure. The straightening shall not deform the cross-section of the conduit such that any two measured outside diameters, each from any location and at any orientation around the longitudinal axis along the conduit differ by more than 6 mm (0.25”).” The longitudinal axis of the straightened conduit shall not deviate by more than 20 mm per meter (0.25” per foot” from a straight line. The HDPE and straightening mechanism manufacturer operating temperatures shall be followed.

## **EXPOSED RACEWAYS**

Effective: January 1, 2012

Revise the first paragraph of Article 811.03(a) of the Standard Specifications to read:

“General. Rigid metal conduit installation shall be according to Article 810.05(a). Conduits terminating in junction and pull boxes shall be terminated with insulated and gasketed watertight threaded NEMA 4X conduit hubs. The hubs shall be Listed under UL 514B. The insulated throat shall be rated up to 105° C. When PVC coated conduit is utilized, the aforementioned hubs shall also be PVC coated.”

Add the following to Article 811.03(b) of the Standard Specifications:

“Where PVC coated conduit is utilized, all conduit fittings, couplings and clamps shall be PVC coated. All other mounting hardware and appurtenances shall be stainless steel.”

“The personnel installing the PVC coated conduit must be trained and certified by the PVC coated conduit Manufacturer or Manufacturer’s representative to install PVC coated conduit. Documentation demonstrating this requirement must be submitted for review and approval.”

Add the following to Article 1088.01(a) of the Standard Specifications:

All iron and steel products, which are to be incorporated into the work, including conduit and all conduit fittings, shall be domestically manufactured or produced and fabricated as specified in Article 106.”

Revise Article 1088.01(a)(3) of the Standard Specifications to read:

“a. PVC Coated Steel Conduit. The PVC coated rigid metal conduit shall be UL Listed (UL 6). The PVC coating must have been investigated by UL as providing the primary corrosion protection for the rigid metal conduit. Ferrous fittings for general service locations shall be UL Listed with PVC as the primary corrosion protection. Hazardous location fittings, prior to plastic coating shall be UL listed.

- b. The PVC coating shall have the following characteristics:

Hardness:	85+ Shore A Durometer
Dielectric Strength:	400V/mil @ 60 Hz
Aging:	1,000 Hours Atlas Weatherometer
Temperature	The PVC compound shall conform at 0° F. to Federal Specifications PL-406b, Method 2051, Amendment 1 of 25 September 1952 (ASTM D 746)
Elongation:	200%

- c. The exterior and interior galvanized conduit surface shall be chemically treated to enhance PVC coating adhesion and shall also be coated with a primer before the PVC coating to ensure a bond between the zinc substrate and the PVC coating. The bond strength created shall be greater than the tensile strength of the plastic coating.
- d. The nominal thickness of the PVC coating shall be 1 mm (40 mils). The PVC exterior and urethane interior coatings applied to the conduit shall afford sufficient flexibility to permit field bending without cracking or flaking at temperatures above -1°C (30°F).
- e. An interior urethane coating shall be uniformly and consistently applied to the interior of all conduit and fittings. This internal coating shall be a nominal 2 mil thickness. The interior coating shall be applied in a manner so there are no runs, drips, or pinholes at any point. The coating shall not peel, flake, or chip off after a cut is made in the conduit or a scratch is made in the coating.
- f. Conduit bodies shall have a tongue-in-groove gasket for maximum sealing capability. The design shall incorporate a positive placement feature to assure proper installation. Certified test results confirming seal performance at 15 psig (positive) and 25 in. of mercury (vacuum) for 72 hours shall be submitted for review when requested by the Engineer.
- g. The PVC conduit shall pass the following tests:



Exterior PVC Bond test RN1:

Two parallel cuts 13 mm (1/2 inch) apart and 40 mm (1 1/2 inches) in length shall be made with a sharp knife along the longitudinal axis. A third cut shall be made perpendicular to and crossing the longitudinal cuts at one end. The knife shall then be worked under the PVC coating for 13 mm (1/2 inch) to free the coating from the metal.

Using pliers, the freed PVC tab shall be pulled with a force applied vertically and away from the conduit. The PVC tab shall tear rather than cause any additional PVC coating to separate from the substrate.

Boil Test:

Acceptable conduit coating bonds (exterior and interior) shall be confirmed if there is no disbondment after a minimum average of 200 hours in boiling water or exposure to steam vapor at one atmosphere. Certified test results from a national recognized independent testing laboratory shall be submitted for review and approval. The RN1 Bond Test and the Standard Method for Measuring Adhesion by Tape Test shall be utilized.

Exterior Adhesion. In accordance with ASTM D870, a 6" length of conduit test specimen shall be placed in boiling water. The specimen shall be periodically removed, cooled to ambient temperature and immediately tested according to the bond test (RN1). When the PVC coating separates from the substrate, the boil time to failure in hours shall be recorded.

Interior Adhesion. In accordance with ASTM D3359, a 6" conduit test specimen shall be cut in half longitudinally and placed in boiling water or directly above boiling water with the urethane surface facing down. The specimen shall be periodically removed, cooled to ambient temperature and tested in accordance with the Standard Method of Adhesion by Tape Test (ASTM D3359). When the coating disbonds, the time to failure in hours shall be recorded.

Heat/Humidity Test:

Acceptable conduit coating bonds shall be confirmed by a minimum average of 30 days in the Heat and Humidity Test. The RN1 Bond Test and the Standard Method for Measuring Adhesion by Tape Test shall be utilized.

Exterior Adhesion. In accordance with ASTM D1151, D1735, D2247 and D4585, conduit specimens shall be placed in a heat and humidity environment where the temperature is maintained at 150°F (66°C) and 95% relative humidity. The specimens shall be periodically removed and a bond test (RN1) performed. When the PVC coating separates from the substrate, the exposure time to failure in days shall be recorded.

Interior Adhesion. In accordance with ASTM D3359, conduit specimens shall be placed in a heat and humidity environment where the temperature is maintained at 150°F (66°C) and 95% relative humidity. When the coating disbonds, the time to failure in hours shall be recorded.

Add the following to Article 1088.01(a)(4) of the Standard Specifications:

“All liquid tight flexible metal conduit fittings shall have an insulated throat to prevent abrasion of the conductors and shall have a captive sealing O-ring gasket. The fittings shall be Listed under UL 514B. The insulated throat shall be rated up to 105° C.”

Revise the second paragraph of Article 811.04 of the Standard Specifications to read:

“Expansion fittings and LFNC will not be measured for payment.”

Revise Article 811.05 of the Standard Specifications to read:

**“811.05 Basis of Payment.** This work will be paid for at the contract unit price per meter (foot) for **CONDUIT ATTACHED TO STRUCTURE**, of the diameter specified, **RIGID GALVANIZED STEEL** or **CONDUIT ATTACHED TO STRUCTURE**, of the diameter specified, **RIGID GALVANIZED STEEL, PVC COATED.**”

**UNIT DUCT**

Effective: January 1, 2012

Revise the first paragraph of Article 810.04 to read:

“The unit duct shall be installed at a minimum depth of 30-inches (760 mm) unless otherwise directed by the Engineer.”

Revise Article 1088.01(c) to read:

“(c) Coilable Nonmetallic Conduit.

General:

The duct shall be a plastic duct which is intended for underground use and which can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance. The duct shall be a plastic duct which is intended for underground use and can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.

The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.

The duct shall be UL Listed per 651-B for continuous length HDPE coiled conduit. The duct shall also comply with NEC Article 354.100 and 354.120.

Submittal information shall demonstrate compliance with the details of these requirements.

Dimensions:

Duct dimensions shall conform to the standards listed in ASTM D2447. Submittal information shall demonstrate compliance with these requirements.

Nominal Size		Nominal I.D.		Nominal O.D.		Minimum Wall	
mm	in	mm	in	mm	in	mm	in
31.75	1.25	35.05	1.380	42.16	1.660	3.556 +0.51	0.140 +0.020
38.1	1.50	40.89	1.610	48.26	1.900	3.683 +0.51	0.145 +0.020

Nominal Size		Pulled Tensile	
mm	in	N	lbs
31.75	1.25	3322	747
38.1	1.50	3972	893

**Marking:**

As specified in NEMA Standard Publication No. TC-7, the duct shall be clearly and durably marked at least every 3.05 meters (10 feet) with the material designation (HDPE for high density polyethylene), nominal size of the duct and the name and/or trademark of the manufacturer.

**Performance Tests:**

Polyethylene Duct testing procedures and test results shall meet the requirements of UL 651. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct. Duct crush test results shall meet or exceed the following requirements:

Duct Diameter		Min. force required to deform sample 50%	
mm	in	N	lbs
35	1.25	4937	1110
41	1.5	4559	1025

**WIRE AND CABLE**

Effective: January 1, 2012

Add the following to the first paragraph of Article 1066.02(a):

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

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

Aerial Electric Cable Properties

Phase Conductor		Messenger wire			
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1
4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1
3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

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

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

Revise Article 1066.04 to read:

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

Revise the second paragraph of Article 1066.05 to read:

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

**UNDERPASS LUMINAIRE, HPS, STAINLESS STEEL HOUSING**

Effective: January 1, 2012

- Description.** This item shall consist of furnishing, testing as required, and installing a luminaire suitable for roadway underpasses as specified herein.

**2. General.**

- 2.1 The luminaire shall be optically sealed, mechanically strong and easy to maintain.
- 2.2 All wiring within the fixture shall have a minimum temperature rating of 125° C. In addition, the unit shall be designed to allow for a maximum supply wire rating of 90° C.
- 2.3 All hardware of the housing, reflector, and ballast assembly shall be captive
- 2.4 The luminaire shall be UL Listed for Wet Locations.
- 2.5 The underpass luminaire shall be suitable for lighting a roadway underpass at approximate mounting height of 16 feet from a position suspended directly above the roadway.
- 2.6 The luminaire shall be certified by the U.L. testing laboratory to meet the IP66 criteria of the International Electro technical Commission Standard 529.

**3. Housing.**

- 3.1 The housing shall be stainless steel and be made of 16 gauge minimum thickness stainless steel, Type 304, #2B finish.
- 3.2 Since the installed location of the luminaires has severe space limitations that prohibit servicing the luminaire from the top or side of the fixture, the luminaire must be serviceable from the bottom of the housing when in the installed position. Both ballast and optical compartments must be serviceable from the bottom of the fixture. Fixtures which open from the top or sides are not acceptable.
- 3.3 The housing shall have a maximum width of 13”
- 3.4 All internal and external hardware, unless specifically specified otherwise, shall be made of stainless steel.
- 3.5 Stainless Steel Housing
  - 3.5.1 The stainless steel housing, and lens frame shall be made of 16 gauge minimum thickness stainless steel, Type 304 #2B.
  - 3.5.2 All housing and frame components shall be cut within with a laser with a positioning accuracy of +/- .004” for assembly accuracy and machine welded to minimize irregularities in the weld joint.

- 3.5.3 All seams in the housing enclosure shall be welded by continuous welding. Stainless steel weld wire shall be used for all welds. A sample weld shall be submitted for review and approval.
- 3.5.4 The luminaire lens shall be flush, within 3.1 mm (0.122”), of the lens frame.
- 3.5.5 The lens frame shall be flat and the frame and luminaire housing shall not have any protruding flanges.
- 3.5.6 The lens frame assembly shall consist of a one-piece 16 gauge 304 stainless steel external frame with the lens facing toward the housing and a 16 gauge 304 stainless internal frame with the legs facing away from the housing. The internal frame shall have seam welded corners for added strength. The two panels will sandwich the glass lens and be fastened together with the use of no less than 10 #10 stainless steel fasteners.
- 3.5.7 The lens frame and the door frame shall each be secured through the use of two stainless steel draw latches secured to the fixture housing.
- 3.5.8 When in open position, it shall be possible to un-hinge and remove the lens frame for maintenance. The lens frame hinge shall be stainless steel and designed so that there must be a conscious action of the maintenance personnel to remove the lens frame. The frame hinging method shall not be designed so that bumping the frame accidentally could allow the frame to fall to the roadway surface. The removal method must be accomplished without the use of tools or hardware. The hinge pin shall be a minimum of 6.35 mm (0.250”) in diameter. The pin shall be spring loaded and retractable with a safety catch to hold the pin in the retracted position for ease of maintenance.
- 3.5.9 The suspended housing shall be divided into two compartments, one for the ballast and optical assembly, the other for wire connections. The optical chamber shall be sealed from the environment. The wire portal between compartments shall be sealed so as to prevent air exchange through the portal. There shall be an internally mounted breather mechanism to allow internal and external air pressure to equalize without permitting dust or water into the unit.

- 3.5.10 The ballast and all electrical equipment shall be mounted to a removable aluminum chassis with a minimum thickness of 3.175, (0.125"). The chassis shall be held in place with captive stainless steel hardware. The hardware shall include a bracket that can be loosened and shifted to allow the chassis to pivot away from fastened position for removal. The splice box shall include a heavy-duty 3 pole terminal block to accommodate #6 conductors and a KTK 2 amp fuse with HPC fuse holder or approved equal. Quick-connect power distribution terminal blocks shall be a molded thermoset plastic, rated 70A, 600V and have 3 poles, each with (4) .250 quick connect terminals. Operating temperature rating to be 150° C. Input wire size shall accommodate #2-#14 AWG. Torque rating shall be 45 in./lb. Maximum. Agency approvals shall be UL E62622; CSA LR15364.
- 3.5.11 Ballast compartment surfaces shall be deburred and free of sharp edges, points or corners that may come in contact with installers or service personnel.

#### **4. Gasketing:**

- 4.1 The junction between the lens frame and the ballast housing door and the housing shall be sealed with a one-piece vulcanized or molded high temperature solid silicone rubber gasket with the equivalent of a 60 Shore A durometer rating. The gasket between the lens frame and the luminaire housing shall be securely attached by mechanical means, such a retaining lip to prevent the movement of the gasket. The gasket may not be secured by adhesive means exclusively. The lens and ballast housing doors shall be designed and constructed so they seal to the gasket on a flat surface. The frame shall not seal to the gasket using the edge of leg on a doorframe. The lens shall be sealed inside of the lens frame with the use of a one-piece solid silicone rubber gasket with ribbed flanges and a rating of 60 Shore A Durometer
- 4.2 The junction between conduit connections to the luminaire and the lens frame junction to the housing shall withstand entry of water when subjected to a water jet pressure of 207 kPa (30 lbs. Per sq. inch), tested under laboratory conditions. Submittal information shall include data relative to gasket thickness and density and the means of securing it in place.

#### **5. Mounting Brackets**

- 5.1 The brackets shall be properly sized to accommodate the weight of the luminaire with calculations or other suitable reference documentation submitted to support the material choice.



- 5.2 The luminaire shall have an opening in the housing for installation (by others) of a 28.1 mm (3/4 inch) diameter flexible conduit. The location of the opening will be determined by the Engineer during the shop drawing review.

**6. Lamp Socket:**

- 6.1 The lamp socket shall be a 4KV pulse rated mogul type, porcelain glazed enclosed, and be provided with grips, or other suitable means to hold the lamp against vibration. The rating of the socket shall exceed the lamp starting voltage, or starting pulse voltage rating.
- 6.2 If the lamp socket is of the sealed removable type, proper alignment of the socket shall be provided and molded into the socket assembly and indicated in a contrasting color.
- 6.3 If the lamp socket is adjustable, the factory setting must be indicated legibly in the luminaire housing.

**7. ANSI Identification Decal:**

A decal, complying to ANSI standard C136-15 for luminaire wattage and distribution type, shall be factory attached permanently to the luminaire. The information contained in the decal shall enable a viewer, from the ground level, to identify the lamp wattage and type of luminaire distribution.

**8. Optical Assembly:**

- 8.1 Lens and Lens Frame. The lens shall be made of crystal clear, impact and heat resistant tempered glass a minimum of 6.35 mm (0.25") thick. The lens shall be held in such a manner as to allow for its expansion and contraction, due to temperature variation. The lens shall be a flat glass design.
- 8.2 Reflector:
- 8.2.1 The reflector shall be hydro formed aluminum, 0.063" thick, bright-dip and clear anodized finish.
- 8.2.2 The reflector shall be secured with a stainless steel aircraft cable during maintenance operations.
- 8.2.3 If the reflector has multiple light distribution positions, each position must have positive stop/mounting with the original factory distribution identified.

- 8.2.4 The luminaire shall be photometrically efficient. Luminaire efficiency, defined by the I.E.S. as "the ratio of luminous flux (lumens) emitted by a luminaire to that emitted by the lamp or lamps used within", shall not be less than 67%. Submittal information shall include published efficiency data.
- 8.2.5 The reflector, the refractor or lens, and the entire optical assembly shall not develop any discoloration over the normal life span of the luminaire.
- 8.2.6 The reflector shall not be altered by paint or other opaque coatings which would cover or coat the reflecting surface. Control of the light distribution by any method other than the reflecting material and the aforementioned clear protective coating that will alter the reflective properties of the reflecting surface is unacceptable

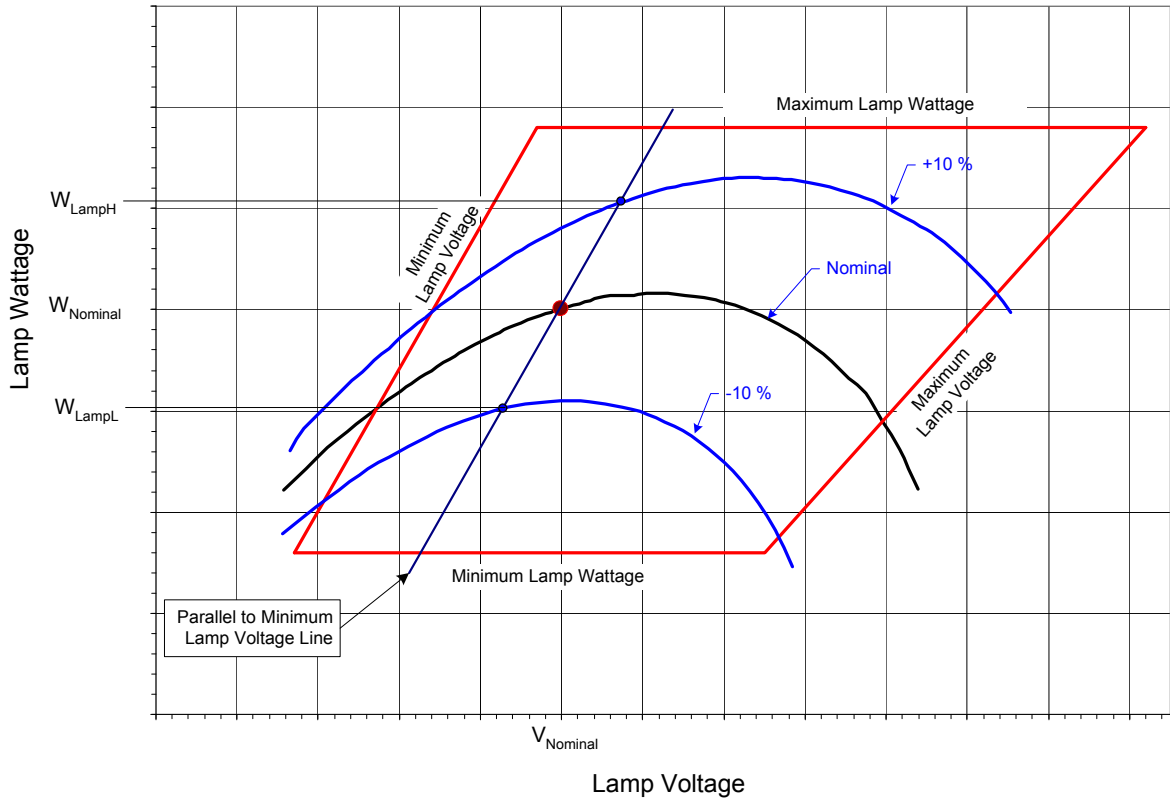
**9. Ballast:**

- 9.1 The ballast shall be a High Pressure Sodium, high power factor, lead type, Isolated Regulator Ballast (CWI) or a Constant Wattage Auto-regulator (CWA), for operation on a nominal 240 volt system.
- 9.2 The ballast shall be designed to furnish proper electrical characteristics for starting and operating a high pressure sodium vapor lamp of the specified rating at ambient temperatures of -29 degrees to +40 degrees C. The ballast windings shall be adequately impregnated and treated for protection against the entrance of moisture, insulated with Class H insulation, and able to withstand the NEMA standard dielectric test.
- 9.3 The ballast shall include an electronic starting assembly. The starter assembly shall be comprised of solid state devices capable of withstanding ambient temperatures of 85 degrees C. The starter shall provide timed pulsing with sufficient follow-through current to completely ionize and start all lamps. Minimum amplitude of the pulse shall be 2,500 volts, with a width of one (1) microsecond at 2,250 volts, and shall be applied within 20 electrical degrees of the peak of the open circuit voltage wave with a repetition rate as recommended by the lamp manufacturer for the 60 cycle wave. The lamp peak pulse current shall be a minimum of 0.2 amperes. Proper ignition shall be provided over a range of input voltage from 216 to 264 volts. The starter component shall be field replaceable and completely interchangeable with no adjustment necessary for proper operation. The starter component shall have push-on type electrical terminations to provide good electrical and mechanical integrity and ease of replacement. Terminal configuration shall preclude improper insertion of plug-in components. The starter circuit board shall be treated in an approved manner to provide a water and contaminant-resistant coating.
- 9.4 The ballast shall have an overall power factor of at least 0.9 when operated under rated lamp load.

- 9.5 The ballast shall withstand a 2,500 volt dielectric test between the core and windings without damage to the insulation.
- 9.6 The ballast shall not subject the lamp to a crest factor exceeding 1.8 and shall operate the lamp without affecting adversely the lamp life and performance.
- 9.7 The ballast shall be designed to ANSI Standards and shall be designed and rated for operation on a nominal 240 volt system. The ballast shall provide positive lamp ignition at the input voltage of 216 volts. It shall operate the lamp over a range of input voltages from 216 to 264 volts without damage to the ballast. It shall provide lamp operation within lamp specifications for rated lamp life at input design voltage range. Operating characteristics shall produce output regulation not exceeding the following values:

<b>Nominal Ballast Wattage</b>	<b>Maximum Ballast Regulation</b>
400	25%
310	26%
250	22%
150	22%
70	17%

For this measure, regulation shall be defined as the ratio of the lamp watt difference between the upper and lower operating curves to the nominal lamp watts; with the lamp watt difference taken within the ANSI trapezoid at the nominal lamp operating voltage point parallel to the minimum lamp volt line:



$$\text{Ballast Regulation} = \frac{W_{LampH} - W_{LampL}}{W_{LampN}} \times 100$$

where:

$W_{LampH}$  = lamp watts at +10% line voltage (264v)

$W_{LampL}$  = lamp watts at - 10% line voltage (216v)

$W_{lampN}$  = lamp watts at 240v"

9.8 Ballast losses, based on cold bench tests, shall not exceed the following values:

Nominal Ballast Wattage	Maximum Ballast Losses
400	16.0%
310	19.0%
250	17.5%
150	26.0%
70	34.0%

Ballast losses shall be calculated based on input watts and lamp watts at nominal system voltage as indicated in the following equation:

$$\text{Ballast Losses} = \frac{W_{Line} - W_{Lamp}}{W_{Lamp}} \times 100$$

where:

$W_{line}$  = line watts at 240v

$W_{lamp}$  = lamp watts at 240v

- 9.9 Ballast output to lamp. At nominal system voltage and a lamp voltage of 52v, the ballast shall deliver a lamp wattage within  $\pm 4\%$  of the nominal lamp wattage. For a 70w luminaire, the ballast shall deliver 70 watts  $\pm 4\%$  at a lamp voltage of 52v for the nominal system voltage of 240v.
- 9.10 Ballast output over lamp life. Over the life of the lamp the ballast shall produce an average of the nominal lamp rating  $\pm 5\%$ . Lamp wattage readings shall be taken at 5-volt increments throughout the ballast trapezoid. The lamp wattage values shall then be averaged within the trapezoid and shall be within  $\pm 5\%$  of the nominal ballast rating. Submittal documents shall include a tabulation of the lamp wattage vs. lamp voltage readings.
- 9.11 The ballast shall be integral to the luminaire. The ballast components shall be mounted on a removable door or on a removable mounting tray. The ballast tray or mounting door shall be manufactured with dissimilar metal conflicts kept to a minimum.
- 9.12 Ballast wiring and lamp socket wiring shall be connected by means of keyed plugs. Upon unplugging the ballast wiring the entire ballast assembly shall be removable for maintenance. The plugs shall not be interchangeable to avoid improper connection of the assemblies.
- 9.13 The mounting adjustments and wiring terminals shall be readily accessible. The removable door or pad shall be secure when fastened in place and all individual components shall be secure upon the removable element. Upon ballast assembly removal, each component shall be readily removable for replacement.
- 9.14 The luminaire shall be completely wired. All wiring connections within the luminaire shall be made with insulated compression connectors or insulated terminal blocks. An insulated terminal block shall be provided to terminate the incoming supply wires. The terminal block shall be rated for 600 volts and shall accommodate wire sizes from #10 to #6 AWG. The use of "wire nuts" is unacceptable. A ground terminal shall be provided for the connection of a ground wire.
- 9.15 Ballast and lamp Leads shall not be smaller than #16 AWG conductors rated at a minimum temperature rating of 90° C.

- 9.16 All wires shall be coded by tagging and/or color coding for proper identification. A complete legible permanently attached wiring diagram (no smaller than 3" x 4" with a min. font size of 8 pts.) coordinated with the wire identifications shall be displayed at the convenient location on the interior of the luminaire. The wiring diagram shall be oriented so that it is right side up and readable when the luminaire is in the installed position.
- 9.17 The ballast shall not be excessively noisy. Noticeable noisy ballasts, as determined by the Engineer, shall be replaced at no additional cost to the State.
- 9.18 The ballast shall provide lamp operation within lamp specifications for the rated lamp life at the input design voltage range. It shall have a 6 month operation capability with a cycling lamp.
- 9.19 Submittal information shall include manufacturer's literature and data to confirm compliance with all specified requirements including an ANSI Standard Ballast Characteristic Graph (Trapezoid) diagram, with all items clearly identified.

**10. Photometric Performance:**

- 10.1 The luminaire photometric performance shall produce results equal to or better than those listed in the included Luminaire Performance Table. Submittal information shall include computer calculations based on the controlling given conditions which demonstrate achievement of all listed performance requirements. The computer calculations shall be done according to I.E.S. recommendations and the submitted calculations shall include point-by-point illuminance, luminance and veiling luminance as well as listings of all indicated averages and ratios as applicable. Calculations shall be performed with AGI32. The program used to perform the calculations shall be identified on the submittal. The submittal data shall also include all photometric calculations files with the proposed photometric data on a CD ROM. The performance requirements shall define the minimum number of decimal places used in the calculations. Rounding of calculations shall not be allowed.
- 10.2 In addition to computer printouts of photometric performance, submittal information shall include: Descriptive literature; an Isofootcandle chart of horizontal lux (footcandles); Utilization curve; Isocandela diagram; Luminaire classification per ANSI designation; Candlepower values at every 2.5 degree intervals; Candlepower tables are to be provided on CD ROM in the IES format as specified in IES publication LM-63.

IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE #4  
 2 Lane Cross Section

Given Conditions		
Roadway Data	Pavement Width	24 ft
	Number of Lanes	2
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
Light Pole Data	Mounting Height	16 ft
	Mast Arm Length	0 ft
	Pole Set-Back From Edge of Pavement	2 ft
Luminaire Data	Lamp Type	HPS
	Lamp Lumens	6,300
	I.E.S. Vertical Distribution	Medium
	I.E.S. Control Of Distribution	Cutoff
	I.E.S. Lateral Distribution	III
	Total Light Loss Factor	0.65
Layout Data	Spacing	30 ft
	Configuration	Single Side
	Luminaire Overhang over edge of pavement	-2 ft

**NOTE:** Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

Performance Requirements
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**NOTE:** These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

Illumination	Ave. Horizontal Illumination, $E_{AVE}$	18 Lux
	Uniformity Ratio, $E_{AVE}/E_{MIN}$	3:1
Luminance	Average Luminance, $L_{AVE}$	1.2 Cd/m <sup>2</sup>
	Uniformity Ratio, $L_{AVE}/L_{MIN}$	3:1
	Uniformity Ratio, $L_{MAX}/L_{MIN}$	5:1
	Veiling Luminance Ratio, $L_V/L_{AVE}$	0.30:1

11. Independent Testing:

11.1 Independent testing of luminaires shall be required whenever the quantity of luminaires of a given wattage and distribution, as indicated on the plans, is 50 or more. For each luminaire type to be so tested, one luminaire plus one luminaire for each 50 luminaires shall be tested. Example: *A plan quantity of 75 luminaires would dictate that 2 to be tested; 135 luminaires would dictate that three be tested.*

11.2 The Contractor shall be responsible for all costs associated with the specified testing, including but not limited to shipping, travel and lodging costs as well as the costs of the tests themselves, all as part of the bid unit price for this item. Travel, lodging and other associated costs for travel by the Engineer shall be direct-billed to or shall be pre-paid by the Contractor, requiring no direct reimbursement to the Engineer or the independent witness, as applicable.

11.3 Commitment to test. The Vendor shall select one of the following options for the required testing with the Engineer's approval:

a. Engineer Factory Selection for Independent Lab: The Contractor may select this option if the luminaire manufacturing facility is within the state of Illinois. The Contractor shall propose an independent test laboratory for approval by the Engineer. The selected luminaires shall be marked by the Engineer and shipped to the independent laboratory for tests.

b. Engineer Witness of Independent Lab Test: The Contractor may select this option if the independent testing laboratory is within the state of Illinois. The Engineer shall select, from the project luminaires at the manufacturer's facility or at the Contractor's storage facility, luminaires for testing by the independent laboratory.

c. Independent Witness of Manufacturer Testing: The independent witness shall select from the project luminaires at the manufacturer's facility or at the Contractor's storage facility, the luminaires for testing. The Contractor shall propose a qualified independent agent, familiar with the luminaire requirements and test procedures, for approval by the Engineer, to witness the required tests as performed by the luminaire manufacturer. The independent witness shall:

- ▶ Have been involved with roadway lighting design for at least 15 years.
- ▶ Not have been the employee of a luminaire or ballast manufacturer within the last 5 years.
- ▶ Be a member of IESNA in good standing.
- ▶ Provide a list of professional references.

d. Engineer Factory Selection and Witness of Manufacturer Testing: The Contractor may select this option if the manufacturing facility is within the state of Illinois. At the manufacturer's facility, the Engineer shall select the luminaires to be tested and shall be present during the testing process. The Contractor shall schedule travel by the Engineer to and from the Manufacturer's laboratory to witness the performance of the required tests.



In all cases, the selection of luminaires shall be a random selection from the entire completed lot of luminaires required for the contract. Selections from partial lots will not be allowed. The selection of the testing option shall be presented with the information submitted for approval. The proposed independent laboratory or independent witness shall be included with that information. The selection of the testing option shall be presented with the information submitted for approval. The proposed independent laboratory or independent witness shall be included with that information.

11.4 The testing performed shall include photometric, electrical, heat and water jet testing.

11.5 Photometric testing shall be in accordance with IES recommendations except that the selected luminaire(s) shall be tested as manufactured without any disassembly or modification and, as a minimum shall yield an isofootcandle chart, with max candela point and half candela trace indicated, an isocandela diagram, maximum plane and cone plots of candela, a candlepower table (house and street side), a coefficient of utilization chart, a luminous flux distribution table, and complete calculations based on specified requirements and tests.

11.6 Electrical testing shall conform to NEMA and ANSI standards and as a minimum, shall yield a complete check of wiring connections, a ballast dielectric test, total ballast losses in watts and percent of input, a lamp volt-watt trace, regulation data, a starter test, lamp current crest factor, power factor (minimum over the design range of input voltage at nominal lamp voltage) and, a table of ballast characteristics showing input amperes, watts and power factor, output volts, amperes, watts and lamp crest factor as well as ballast losses over the range of values required to produce the lamp volt-watt trace. Ballast test data shall also be provided in an electronic format acceptable to the Engineer to demonstrate compliance with sections 9.7, 9.8, 9.9 and 9.10.

11.7 Heat Testing. Heat testing shall be conducted to ensure that the luminaire complies with UL 1572. An ambient temperature of 40 degrees centigrade (104 degrees F) shall be used for the test.

11.8 Water spray test. The luminaires must pass the following water spray test.:

A spray apparatus consisting of four spray nozzles set at an angle of 30 degrees from the vertical plane space 30 inches apart on a 2 inch pipe, each delivering 12 gallons of water per minute at a minimum of 100 psi at each nozzle in a 90 degree cone. A water pressure gauge shall be installed at the first nozzle.

The luminaires shall be mounted in a ceiling configuration and with each nozzle set a distance of 18 inches below the fixture in the vertical plane and 18 inches away in the horizontal plane from the fixture lens, apply spray for a duration of 3 minutes at a minimum of 100 psi. When opened, the fixture shall not show any signs of leakage.

The above test shall be repeated in the opposite horizontal plane from the fixture lens with no signs of leakage.

The summary report and the test results shall be certified by the independent test laboratory or the independent witness, as applicable, and shall be sent by certified mail directly to the Engineer. A copy of this material shall be sent to the Contractor and luminaire manufacturer at the same time.

11.9 Should any of the tested luminaires of a given distribution type and wattage fail to satisfy the specifications and perform according to approved submittal information, the luminaire of that distribution type and wattage shall be unacceptable and be replaced by alternate equipment meeting the specifications with the submittal and testing process repeated in their entirety; or corrections made to achieve required performance. In the case of corrections, the Vendor shall advise the Engineer of corrections made and shall request a repeat of the specified testing and, if the corrections are deemed reasonable by the Engineer, the testing process shall be repeated. The number of luminaires to be tested shall be the same quantity as originally tested. Luminaires which are not modified or corrected shall not be re-tested without prior approval from the Engineer.

Coordination shall be the Vendor's responsibility. Failure to coordinate arrangements and notice shall not be grounds for additional compensation or extension of time.

Submittal information shall include a statement of intent to provide the testing as well as a request for approval of the chosen laboratory.

## 12. Installation.

12.1 Underpass luminaires shall be either attached to structures (such as piers, etc.) or suspended from structures (such as bridge decks) as indicated or implied by the configuration on the Plans. Mounting, including all hardware and appurtenant items, shall be included as part of this item.

12.2 Unless otherwise indicated, suspended underpass luminaires shall be installed one-inch above the lowest underpass beam and shall be mounted using vibration dampening assemblies. All mounting hardware shall be corrosion resistant and shall be stainless steel unless otherwise indicated.

12.3 The Engineer reserves the right to select the final light distribution pattern, luminaire aiming angle and change it as deemed necessary to produce the proper pavement luminance.

12.4 Surface mounted luminaires, all luminaires not mounted on suspension rods, shall have one-inch thick stainless steel spacers installed between the luminaire and the deck or wall.

## 13. Guarantee.

The Vendor shall provide a written guarantee for materials, and workmanship for a period of 6 months after final acceptance of the lighting system.

14. Documentation.

All instruction sheets required to be furnished by the manufacturer for materials and supplies and for operation of the equipment shall be delivered to the Engineer.

The manufacturer shall have been incorporated for at least five years and shall have at least five years in the design and manufacturing of roadway underpass lighting. The manufacturer shall provide evidence of financial strength to finance the production of the project by submitting the name of at least three projects completed in the previous calendar year of greater than \$250,000 each. All steel used in the project shall be certified to be provided domestically, and all fixture components used shall be manufactured domestically.

**15. Method of Measurement.** Luminaires shall be counted, each.

**16. Basis of Payment.** This item shall be paid at the contract unit price each for **UNDERPASS LUMINAIRE**, of the wattage specified, **HIGH PRESSURE SODIUM VAPOR**, which shall be payment in full for the material and work described herein.

#### **LUMINAIRE SAFETY CABLE ASSEMBLY**

Effective: January 1, 2012

**Description:** This item shall consist of providing a luminaire safety cable assembly as specified herein and as indicated in the plans.

**Materials.** Materials shall be according to the following:

**Wire Rope.** Cables (wire rope) shall be manufactured from Type 304 or Type 316 stainless steel having a maximum carbon content of 0.08 % and shall be a stranded assembly. Cables shall be 3.18 mm (0.125") diameter, 7x19 Class strand core and shall have no strand joints or strand splices.

Cables shall be manufactured and listed for compliance with Federal Specification RR-W-410 and Mil-DTL-83420.

Cable terminals shall be stainless steel compatible with the cable and as recommended by the cable manufacturer. Terminations and clips shall be the same stainless steel grade as the wire rope they are connected to.

**U-Bolts.** U-Bolts and associated nuts, lock washers, and mounting plates shall be manufactured from Type 304 or Type 316 stainless steel.

## CONSTRUCTION REQUIREMENTS

**General.** The safety cable assembly shall be installed as indicated in the plan details. One end of the cable assembly shall have a loop fabricated from a stainless steel compression sleeve. The other end of the cable assembly shall be connected with stainless steel wire rope clips as indicated. Slack shall be kept to a minimum to prevent the luminaire from creeping off the end of the mast arm. Unless otherwise indicated in the plans, the luminaire safety cable shall only be used in conjunction with luminaires which are directly above the traveled pavement.

**Basis of Payment:** This work shall be paid for at the contract price each for **LUMINAIRE SAFETY CABLE ASSEMBLY**, which shall be payment for the work as described herein and as indicated in the plans.

### LIGHTING CONTROLLER, RADIO CONTROL, DUPLEX CONSOLE TYPE, WITH SCADA

Effective: January 1, 2012

**Description:** This work shall consist of furnishing and installing a roadway lighting electrical control cabinet with radio control complete with foundation and wiring for the control of highway lighting.

**General.** The completed controller shall be an Industrial Control Panel under UL 508, and shall be suitable for use as service equipment

Double Door Enclosure.

**Cabinet.** The cabinet shall be of the dimensions shown on the plans and fabricated from 1/8 in. (3 mm) thick aluminum alloy No. 3003-H14. The cabinet shall comply with ANSI C 33.71 and UL 50 and be reinforced with aluminum angles.

**Doors.** The doors shall have stainless steel hinges. The door handle shall be stainless steel, a minimum diameter of 1/2 in. (13 mm) and be furnished with a rain and ice resistant lock. The doors shall be gasketed to exclude the entry of moisture, dirt, and insects. A linkage-arm system, of simple construction, shall be attached to the cabinet doors to allow securing in a wide open position during field operations.

**Insulation.** When specified, the interior compartment shall be insulated on the inside of the sides, back, top, bottom, and inside of the doors with 1 in. (25 mm) thick polyisocyanurate rigid foam insulation board. The foam board shall have foil facers on each side. The side facing the interior of the cabinet shall have a white tinted foil facer with a satin finish. The insulation shall have a minimum aged thermal resistance (R-value) of 8 at a 40°F (4°C) mean temperature. The insulation shall comply with Federal Specification HH-I-1972/1, Class 2.

Mounting. The cabinet shall be mounted as indicated on the plans.

Work Pad. Except where the cabinet is facing a sidewalk, a poured, 4 in. (100 mm) thick concrete pad, not less than 48 in. (1.2 m) square shall be provided in front of the cabinet.

Finish. All aluminum enclosures shall be finished.

Surface Preparation: The cabinet, doors and all other parts to be painted will be submerged in each tank of a 3 step iron phosphate conversion technique. After phosphatizing the parts shall be passed through an oven and baked to eliminate any moisture.

Finish coat: Shall be polyester powder paint applied electrostatically to a minimum thickness of 2 mils and baked at 375°F for 20 minutes.

The color of the finish paint shall be ANSI Standard No. 70 Sky Gray or as specified by the Engineer.

The finish shall be applied according to the paint manufacturer's recommendations and the manufacturer shall certify, in writing, to the Department, that the finish has been applied properly.

Submittal data submitted for approval shall address the requirement for the paint manufacturer's certification and shall include a standard, single source paint warranty by the paint manufacturer of the controller manufacturer to the Department.

Identification. The cabinet door shall have a stainless steel name plate of the dimensions and engraving indicated on the plans. An identification decal shall also be installed on the back of the cabinet as specified elsewhere herein.

Control Components.

Time Switch. When specified, each controller shall have an electric time switch for automatic control of highway lighting circuits operating on a daily schedule having a fixed relation to sunrise and sunset. Turn-on and Turn-off times shall be adjustable  $\pm 45$  minutes from sunrise and sunset. All settings shall be field adjustable without special tools. Complete installation instructions, details on wiring connections, and information on time setting, manual operation, and necessary adjustments shall be furnished with each time switch.

The time switch shall be a microprocessor-based two channel controller with astronomic functions on both channels. The latitude shall be adjustable from ten to 60 degrees in the Northern hemisphere. Latitude changes shall be user ettable without the use of special tools.

The time switch shall be programmable in an AM/PM format, with a resolution of one minute or better. The time switch shall automatically adjust for daylight saving time and have automatic leap year correction and operate on 240 V AC without the use of an additional transformer.

A battery backup shall be integral with the controller and shall use a nickel-cadmium battery. The battery backup shall provide power to the controller memory for a minimum of 72 hours in the event of power failures.

The published operating temperature range of the time switch shall be from 86 to 158°F (-30 to 70°C).

The time switch output relay contacts shall be rated sufficiently to handle the inrush current of two 200 A contactors. The time switch shall have a NEMA Type 1 enclosure as a minimum. The time switch programming instructions shall be moisture proof and permanently affixed to the time switch or as otherwise approved by the Engineer.

#### Circuit Breakers.

All feeders, branch circuits, and auxiliary and control circuits shall have overcurrent protection. The overcurrent protection shall be by means of circuit breakers.

Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles.

240 V circuit breakers shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated circuit voltage for which the breaker is applied. 480 V applications shall have a UL listed interrupting rating of not less than 14,000 rms symmetrical amperes at rated circuit voltage.

Multi-pole circuit breakers larger than 100 A size shall have adjustable magnetic trip settings.

The number of branch circuit breakers shall be as indicated on the Control Cabinet detail drawing or as indicated in the lighting system wiring diagram which ever is greater plus two spare circuit breakers.

#### Contactors.

Contactors shall be electrically operated, mechanically held as specified, with the number of poles required for the service and with operating coil voltage as indicated. The contactor shall have an in-line drive operating mechanism. Ampere rating of contactors shall be not less than required for the duty shown and shall otherwise be rated as indicated.

Contactors shall be complete with a non-conducting inorganic, non-asbestos subpanel for mounting.

Mechanically held contactors shall be complete with coil clearing contacts to interrupt current through the coil once the contactor is held in position.

The main contactor contacts shall be the double break, silver to silver type. They shall be spring loaded and provide a wiping action when opening and closing. The contacts shall be renewable from the front panel, self aligning, and protected by auxiliary arcing contacts.

The line and load terminals shall be pressure type terminals of copper construction and of the proper size for the ampere rating of the contactor.

A lever for manual operation shall be incorporated in the mechanically held contactor. Protection from accidental contact with current carrying parts when operating the contactor manually shall be provided.

The contactor operating coil shall operate at phase to neutral voltage. Single phase contactors shall be two pole devices with continuous rating for the amperage selected per pole.

Open and closed positions for mechanically held contactors shall be clearly indicated and labeled in permanent manner as approved by the Engineer.

Auto/Manual Switches. The cabinet shall be equipped with automatic and manual operating controls via two, single pole double throw switches, one being a maintained-contact manual-automatic selector switch and one being a momentary-contact manual on-off switch with a center rest position. Both switches shall be premium specification grade, rated for the applied duty but not less than 20 A at 240 V and each shall be mounted in a 4 in. (100 mm) square box with cover.

The control circuit shall have overcurrent protection as indicated and as required by NEC requirements.

#### Ground & Neutral Bus Bars.

Separate ground and neutral bus bars shall be provided. The ground bus bar shall be copper, mounted on the equipment panel, fitted with 22 connectors of the type shown on the plans, as a minimum. The neutral bar shall be similar. The heads of connector screws shall be painted white for neutral bar connectors and green for ground bar connectors.

#### Interior Lighting, Receptacle and CCTV power.

The cabinet shall have an auxiliary device circuit at 120 V single phase to supply a convenience receptacle, cabinet light and a dedicated 120v circuit for CCTV camera power indicated in the plans. Where 120 V is not available directly from the service voltage, an outdoor dry type step-down transformer not less than 2 KVA shall be provided as described elsewhere herein.

The auxiliary circuit, including transformer primary and secondary, shall have overcurrent protection according to NEC requirements.

The interior, 60 W incandescent lighting fixture of the enclosed-and-gasketed type, shall be switched from a single pole, single throw, 20 A switch. The switch shall be premium specification grade in a suitable 4 in. (100 mm) box with a cover.

A 20 A duplex receptacle, ground fault interrupting, premium specification grade shall be furnished in a 4 in. (100 mm) square box with cover, for 120 V auxiliary use.

Surge Arrester.

The control circuit in the cabinet shall be protected by a surge arrester meeting the requirements of Article 1065.02.

Wiring and Identification.

Power wiring within the cabinet shall be of the size specified for the corresponding service conductors and branch circuits and shall be rated RHH/RHW, 600 V.

Control and auxiliary circuit wiring shall be rated RHH/RHW or MTW with jacket, 600 V.

All power and control wiring shall be stranded copper. When specified all wiring shall be tagged with self-sticking cable markers. When the contract drawings do not specifically indicate assigned wire designations, the manufacturer shall assign wire designations and indicate them on the shop drawings.

All switches, controls and the like shall be identified both as to function and position (as applicable) by means of engraved two color nameplates attached with screws, or where nameplate are not possible in the judgement of the Engineer, by the use of cloth-backed adhesive labels as approved by the Engineer.

The cabinet with all of its electrical components and parts shall be assembled in a neat orderly fashion. All of the electrical cables shall be installed in a trim, neat, professional manner. The cables shall be trained in straight horizontal and vertical directions and be parallel, next to, and adjacent to other cables whenever possible.

Transformer, General Purpose.

The transformer shall be dry type and weatherproof so that it may be installed indoors or outdoors without additional housing. It shall have an enclosure for splices with provisions for weather tight conduit connections.

The transformer shall have four taps on the primary side, one at 2 1/2 percent, one at 5 percent, one at 7 1/2 percent and one at ten percent below rated voltage.

Insulation shall be Class F or Class H. The transformer shall meet the applicable ASA and IEEE standards.

Mounting and back plates shall be of Aluminum Alloy 2024, 3003 or 6061. Bolts, nuts and washers shall be of Series 300 stainless steel. Bolts shall have hexheads. Nuts shall be hexagon and self locking. Washers shall be of the flat type.



Radio Control Equipment.

Receiver - Decoder: The radio control module consists of a radio receiver, digital decoder, and an output interface which allows centralized remote radio control of the lighting controller turn-on and turn-off functions. The radio control module must be capable of operation consistent with the existing radio control system, a Motorola SCADA Central Station.

The existing control system currently operates over 250 discrete lighting controllers via a securely coded proprietary data scheme. For this reason, the control module must consist of a Motorola ACE 3600 Modular Remote Unit, model F 7563, (small housing), with no less than the following options:

Motorola Designation	Description
F 7563 (VHF), F 7564 (UHF)	ACE 3600 CPU *
V 245	Mixed I/O
V 261	240 VAC Power Supply w/charger
Z 857AA	Surge Protection

\* Includes (1) three slot frame, (1) ACE 3600 CPU plus firmware, (1) mixed I/O Module, (1) VHF or UHF (as directed by the Engineer) CDM 750 Radio with FSK Radio Interface, port 3 (1) AC Power Supply with Charger, (1) 6.5 Ah battery, installed in a 15" X 15" X 8.26" NEMA 4X/IP 56 painted metal enclosure with instruction manual.

The manufacturer's designation by no means relieves the Contractor of providing a fully functional radio system as described herein.

A 120/240 to 24VAC step down transformer shall be included for the SCADA system.

The Radio Control Module shall be programmed for the following operational parameters:

- Transceiver Frequency: To be specified by the Engineer
- Receive Frequency: To be specified by the Engineer
- Communications Failure Preset: Normally Open
- Individual Station address: To be specified by the Engineer

Antenna. The antenna shall be thick mount up to 1/2" mounting surface mounted by screw adapter (no magnet mounts). The low profile antenna mount shall be equivalent to Antenex – MABT8XNSI antenna Mount Low Profile. Accompanying antenna shall be equivalent to Antenex – B132 (Broad Band – VHF/UHF 1/4 wave 150-928 MHz. Accompanying cable shall be equivalent to Antenex-RG8X and conductor equivalent to Antenex – CN8X from Radio to Antenna and shall be of appropriate length and not longer than 8 ft.

Installation. I/O Module. All motherboard cards shall be configured and installed as per manufacturer's specifications and IDOT specification Ltg SCADA 397. Modules include but are not limited to; CPU, Mixed I/O. All digital inputs terminated on the Mixed I/O card shall be dry. Termination points for all digital input points will be reflected on power center wiring diagram or additional wiring schematic provided by the engineer. All digital outputs received from the Mixed I/O card shall be rated at 24 VAC 2A. All digital outputs shall be connected to interposing relays prior to being integrated into the power center wiring logic. The digital outputs shall maintain a momentary closure for approximately 2 seconds.

All wiring termination points shall be tagged using the nomenclature given on the wiring diagram. The alarms acknowledge button shall be implemented with a placard stating "Alarm Acknowledge". Site configuration, map implementation, screens tagging and other related software configurations shall be specified elsewhere herein.

The antenna shall be centered on the top of the control cabinet. The antenna cable shall be dressed and trimmed for minimal length, allowing sufficient slack of removal of the radio connection for replacement or testing without disruption to the installation. The antenna connector shall be properly soldered to the cable assembly. Great care shall be exercised in the assembly of the antenna connector, excessive heat will destroy the inner insulation, and insufficient heat will produce a cold solder connection on the outer shield.

Intra-module wiring shall be 18 AWG stranded wire, color coded (American) consistent with battery polarity, and signal. The wire connection from terminal block (TB2) to the interpose relays shall be 14AWG stranded. All wires connected to the radio modules shall be dressed and tinned prior to insertion, (crimp on connectors will not be allowed for use in the radio system). Cost of all wire is inclusive within the scope of this work.

A terminal strip separate from the integral radio module and power supply shall be provided to interface power and signal conductors to the lighting controller. Terminals and wiring shall be labeled in accordance with the drawings, and dressed to allow service. The radio module shall be provided with constant 240 VAC power. The control power breaker shall provide power for the SCADA system. This is to allow the system to be energized at all times.

The SCADA system shall be tested in conjunction with the controller inspection, prior to field installation. The turn-on and turn-off function shall be tested ten (10) consecutive times utilizing actual signals originating from District 1 Headquarters. Any failures must be cleared before the controller is delivered to the job site.

Null covers shall be provided for the slots not used. All analog inputs shall be 4-20 mA. All I-O wiring including analog and digital shall be wired as per the enclosed table.

SCADA System Control Relay Assembly. The Contractor shall mount and wire four (4) relays in a box as shown in the wiring diagram. Two relays shall be 240 volts sealed type and two relays shall be 24 volts sealed type, unless otherwise indicated, shall have contacts rated at not less than 20 amperes at 240 volts. The power relay for activating the lighting contactors shall have contacts rated to handle the contactor inrush. The relays shall be wired to a marked terminal strip.

Testing. As part of final acceptance testing, all individual I/O points and internal status alarms shall be tested for proper operation and transmission. The transmission shall be confirmed at IDOT District 1 HQ. and the contractors dispatch facility. This full SCADA system start-up shall be completed with the Engineer present.

The SCADA radio system shall have the following items tested: VSWR, cable impedance, RSSI to the power center and confirmation that data sent from power center is received by the IDOT lighting system computers.

Analog Inputs And Transducers. The panel shall include one voltage transducer for monitoring the line voltage and one current transducer for monitoring the neutral current. Their outputs shall be 4-20 mA DC each and shall be wired to channels 1 and 2 of the Mixed I/O module as shown. The voltage transducer shall be Scientific Columbus Model # VT110 – PAN7 – A4-2 for 480/240 volt single phase systems. The current transducers shall be Mel Kirchler Technologies Model # AT2-420-24L-FT, with power supply, PS-240-24P-1A. Both analog inputs shall be wired using shielded cable. Both transducers shall also be calibrated so that the SCADA system reads the correct value.

Testing Of The Assembled Cabinet. Prior to shipment of the completed control cabinet, the control cabinet shall be tested for load, short circuits and complete operation of the cabinet as specified herein and as shown on the plans. The test shall be made at the manufacturer's shop, by the manufacturer and shall be witnessed by the Engineer. The Contractor shall arrange the test date with the Engineer and so allow not less than seven (7) days advance notice. The cabinet shall not be delivered to the job site until inspected, tested and approved for delivery by the Engineer.

Staging. All Central Configuration programming be completed prior to the initial check out/PM of the SCADA unit in the field. This is to assure/confirm 2 way radio communications from the field RTU the Central. Lighting controller information submitted for approval shall include any recommendations of the Manufacturer for storage as provided under this contract.

The packaging of the lighting controller shall incorporate the provisions recommended by the Manufacturer to accommodate storage.

TERM	MOSCAD DESTINATION	WIRE #	DESCRIPTION OF INPUT
32	Analog Input 1 (+)	TB2 B11	CABINET NEUTRAL CURRENT
33	Analog Input 1 (-)	TB2 B1	CABINET NEUTRAL CURRENT
34	Analog Input 2 (+)	TB2 A2	CABINET SERVICE VOLTAGE
35	Analog Input 2 (-)	TB2 B2	CABINET SERVICE VOLTAGE
40	P. Ground	TB2 A3	GROUND
1	Digital Input 1	TB2 B3	ALARM ACKNOWLEDGE
2	Digital Input 2	TB2 A4	DOOR OPEN
3	Digital input 3	TB2 A5	MAIN(S) BREAKER OPEN
4	Digital input 4	TB2 A7	CONTACTOR 1 OPEN
5	Digital Input 5	TB2 A8	CONTACTOR 2 OPEN
6	Digital input 6	TB2 A9	CABINET IN NON-AUTO
7	Digital input 7	TB2 A10	BACK-UP CLOCK OFF CALL
8	Digital Input 8	TB2 A11	BACK-UP CLOCK ON CALL
18	DI Common	*	COMMON
20	K1 NO	TB2 A12	LIGHTS ON CALL
21	K1 Com	TB2 B17	K1 COMMON
23	K2 NO	TB2 A13	LIGHTS OFF CALL
24	K2 Com	TB2 B17	K2 COMMON
17	24 V+	TB2 B13	24+ VDC

All analog inputs will be 4-20 mA only. Digital output relays will be electrically energized and momentarily held.

Mixed I/O module model number V 245

Lighting SCADA RTU terminal Configuration.

Description. This work shall consist of having the SCADA system manufacturer design, implement and test a new RTU on the Lighting SCADA System on all system terminals.

Materials. All software work shall be completed by the manufacturer or approved factory licensed sales and service company for the SCADA equipment. All licensing shall be provided by the entity completing the work. Licenses are to be held by IDOT.

#### SCADA RTU Configuration And Programming:

1. Setup of CPU and accompanying modules.
2. Setup of RTU site number, octal address, group call and All Call.
3. Configure application alarm parameters (download config./application).
4. Development and implementation of control and alarm application from IDOT submitted telemetry requirements.

NOTE: IDOT shall supply checklist listing I/O, telemetry, all call, group call and individual call data.

#### SCADA Service/Client Wonderware Programming:

1. Add RTU to Wonderware.
2. Configure Wonderware to poll SCADA CPU for data on that specific RTU.
3. Setup servers and clients for alarm notification and database I/O, for that specific RTU.
4. Configure RTU polling.
5. Activate RTU on FIU polling.

#### SCADA FIU CPU Programming:

If RTU exists as an Intrac site, it will have to be setup as a MOSCAD site (MOSCAD CPU). If RTU is a new site, it will have to be configured as a MOSCAD site (MOSCAD CPU).

Submittals. The Motorola VAR shall submit ladder programming, quiescent telemetry and SCADA configuration files for approval by the IDOT Engineer. Submittal will be reviewed by the Engineer and returned noting changes and/or comments.

Testing and Documentation. As part of final acceptance testing, all individual I/O points and internal status (COS) alarms shall be tested for proper operation and transmission. The transmission shall be confirmed at IDOT Dist. HQ. And the contractors dispatch facility. This full SCADA system start-up shall be completed with the Engineer present.

The control cabinet shall be tested for complete operation and the electrical load on each circuit shall be measured and documented on the Log form L-3. The ground resistance test shall be performed by the Contractor using the fall-of-potential method, with results recorded by the Contractor and witnessed by the Engineer. Ground continuity shall be tested using an approved low-impedance ohmmeter, to the farthest point of each circuit extension from the controller cabinet. Results shall be recorded by the Contractor and witnessed by the Engineer.

#### Installation.

The lighting controller installation shall be according to the details, location, and orientation shown on the plans.

Work Pad. A 4 in. (100 mm) thick portland cement concrete work pad, not less than 48 x 48 in. (1.2 x 1.2 m) shall be provided in front of the cabinet, except where the cabinet faces an adjacent sidewalk.

All conduit entrances into the lighting controller shall be sealed with a pliable waterproof material.

Concrete Foundation. The Contractor shall confirm the orientation of the lighting controller, and its door side, with the Engineer, prior to installing the foundation. A portland cement concrete foundation shall be constructed to the details shown on the plans and is included as a part of this pay items and shall not be paid for separately. The top of the foundation shall be 12-inches above grade.

The lighting controller enclosure shall be set plumb and level on the foundation. It shall be fastened to the anchor rods with hot-dipped galvanized or stainless steel nuts and washers. Foundation mounted lighting controllers shall be caulked at the base with silicone.

Where the controller has a metal bottom plate, the plate shall be sealed with a rodent and dust/moisture barrier.

#### Grounding.

Grounding shall be as shown on the lighting controller detail drawings. Ground rods, ground wells, connections, ground wire and other associated items shall be included in the cost the lighting controller and shall not be paid for separately.”

**Method Of Measurement.** Each lighting controller shall be counted each for payment.

**Basis Of Payment.** This item shall be paid for at the contract unit price each for **LIGHTING CONTROLLER, RADIO CONTROL, DUPLEX CONSOLE TYPE WITH SCADA**, which shall be payment in full for the work, complete, as specified herein.

#### **RELOCATE EXISTING LIGHTING CONTROLLER**

**Description.** This item shall consist of temporarily relocating an existing lighting controller on wood pole as shown on the plans and as designated by the engineer. All appurtenant materials and work, (including strapping material, raceways, grounding, wood supports), required for the relocations shall be included as part-of this item.

**Removal and Reinstallation.** No removal work will be permitted without approval from the Engineer. The existing lighting controller shall be disconnected and removed from the existing foundation. The removed existing controller shall be relocated on wood pole during Pre-stage 1 construction as shown on the plans.

The electric service cables shall be connected such that the lighting controller becomes operational the following evening without interruption for temporarily relocated.

The wood supports and hardware needed for temporary relocation of the existing controller shall be provided to attach controller to the wood pole as shown on the plans. The wood pole, temporary service connection, overhead branch circuits and service feeder shall be paid separately.

The existing lighting controller is equipped with radio controlled SCADA system; The Contractor shall coordinate with the Engineer and IDOT District 1 prior to disconnecting service to the existing controller for removal.

The Contractor is responsible to identify any pre-construction damages to existing lighting controller and have them acknowledged by the Engineer prior to removal. The record of pre-construction damages shall be approved by the Engineer.

Any damages to the lighting controller during removing, handling and relocating shall be repaired or replaced in kind, to the satisfaction of the Engineer at the Contractor's own expense which shall include any pre-construction damages not identified and approved the Engineer.

Grounding shall be as shown on the lighting controller detail drawings. Ground rods, ground wells, connections, ground wire and other associated items for temporary relocation shall be included in the cost of this pay item and shall not be paid for separately.

**Method of Measurement.** This item will be measured for payment in EACH relocated, complete.

**Basis Of Payment.** This item will be paid for at the contract unit price each for **RELOCATE EXISTING LIGHTING CONTROLLER**, which shall be payment in full for performing the work as described herein.

## **REMOVE TEMPORARY WOOD POLE**

**Description.** This item shall consist of the disconnection and removal of the temporary wood pole associated aerial cable.

### CONSTRUCTION REQUIREMENTS

**Removal.** Removal of the temporary wood pole shall be performed in accordance with the applicable sections of article 841.02 of the standard specifications.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **REMOVE TEMPORARY WOOD POLE** which shall be payment in full for the work specified herein.

### REMOVE EXISTING LIGHTING CONTROLLER AND SALVAGE

**Description.** This item shall consist of removing existing relocated controller returning it to the Department. The removal of temporary electric service installation shall be incidental to this pay item.

### CONSTRUCTION REQUIREMENTS

**General.** No removal work shall be permitted without approval from the Engineer. Abandoned underground electric cables shall be removed with conduit and duct to a depth of 1 ft (300 mm) below ground level and the hole backfilled.

Any removal work involving facilities owned by the electric utility shall be coordinated by the Contractor to insure the utility is properly notified and (if necessary) present while the removal work is being done. The Contractor shall insure that the removal work is disconnected from the utility's service equipment in a manner which is in compliance with the requirements of the utility.

**Removal of Electric Service Installation.** This work shall consist of the removal and satisfactory disposal of the weatherhead grounding electrode, meter base, disconnect, conduit, wiring, and other miscellaneous items associated with a temporary electric service installation.

**Removal of Lighting Controller.** This work shall consist of the removal of controller cabinet, enclosed electrical equipment, and all other miscellaneous items associated with a lighting controller and return to the Department as directed by the Engineer.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **REMOVE EXISTING LIGHTING CONTROLLER AND SALVAGE** which shall be payment in full for the work specified herein.

### TEMPORARY WOOD POLE, 40 FT., CLASS 4

**Description.** This item shall consist of furnishing and installing temporary wood pole, hardware and accessories required for temporary installation.



**Materials.** The materials shall in accordance with article 1069.04 of standard specifications.

### **CONSTRUCTION REQUIREMENTS**

**Installation.** The wood pole shall be installed in accordance with article 830.03 (c) and 830.03 (d). The wood pole shall be installed such that minimum required buried depth shall be maintained for existing and proposed grade.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **TEMPORARY WOOD POLE, 40 FT., CLASS 4** which shall be payment in full for the work specified herein.

### **RELOCATE EXISTING LUMINAIRE**

**Description.** This item shall consist of removing and storing and reinstalling existing luminaire with 310W HPS lamp as shown on the plans.

### **CONSTRUCTION REQUIREMENTS**

**General.** No removal work will be permitted without approval from the Engineer. Any damage resulting from the removal, storage and reinstallation of the lighting luminaire and associated hardware, shall be repaired or replaced in kind. The Engineer will be the sole judge to determine the extent of damage and the suitability of repair and/or replacement. The removal of existing lamp and replace with new 310 HPS lamp will be included in this pay item.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **RELOCATE EXISTING LUMINAIRE** which shall be payment in full for the work specified herein.

### **REMOVAL OF TEMPORARY LIGHTING UNIT**

**Description.** This item shall consist of the disconnection and removal of the temporary wood pole lighting unit, associated aerial cable and hardware. The removed unit shall be delivered to the Department.

### **CONSTRUCTION REQUIREMENTS**

**Removal.** No removal work will be permitted without approval from the Engineer. Removal shall start as soon as the temporary lighting or permanent lighting, as applicable, is placed in approved operation. An inspection and approval by the Engineer will take place before any associated proposed permanent or temporary lighting is approved for operation.

Removal shall include the removal of temporary wood pole, aerial cable, and all associated apparatus and connections. Removal shall also include removal of all wiring and connections to the associated lighting controller.

Wood poles, mast arms, luminaries, and all associated hardware and appurtenances shall remain the property of the Department and shall be delivered to a Department facility within the District and unloaded and stacked there, as directed by the Engineer. Wood blocking, banding, or other appurtenant items required for proper stacking and protection shall be included. Luminaires shall be removed, boxed in new containers, approved by the Engineer, and delivered to a Department facility, as designated by the Engineer.

The void caused by the removal of the pole shall be backfilled with suitable excavated material approved by the Engineer. Backfill shall be deposited in uniform lifts not exceeding 6 in. (150 mm) thick loose measure and compacted.

Backfill material for areas in the subgrade of the proposed improvement, and for areas outside of the subgrade where the inner edge of the void is within 2 ft (600 mm) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk shall be fine aggregate, gradation FA 6.

Disposal of surplus material shall be done according to Article 202.03.

With the approval of the Engineer, the Contractor may partially remove the temporary lighting system after parts of the permanent lighting system are operational. Any modifications to the temporary system to keep the temporary lighting system and permanent lighting system operational shall be performed at no additional cost to the Department.

**Method of Measurement.** Units will be measured for payment as each on a per pole basis, regardless of pole material, mounting height, the number and type of mast arm(s), luminaires and other appurtenant items attached thereto.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **REMOVAL OF TEMPORARY LIGHTING UNIT** which shall be payment in full for the work specified herein.

## **REMOVAL OF TEMPORARY LUMINAIRE**

**Description.** This item shall consist of removing temporary luminaire as shown on the plans and disposed of off the site.

## **CONSTRUCTION REQUIREMENTS**

**General.** No removal work will be permitted without approval from the Engineer. Temporary luminaire shall be removed after completion of construction stage 2 and the traffic is for final configuration. The existing luminaire shall be reinstalled the same day temporary luminaire will be removed and lighting system shall be made operational before dusk. The existing luminaire reinstallation will be paid under Relocate Existing Luminaire pay item.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **REMOVAL OF TEMPORARY LUMINAIRE** which shall be payment in full for the work specified herein.

**TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 750 WATT**

**Description.** This item shall consist of furnishing and installing temporary high mast luminaire as shown on the plans.

**Materials.** The materials shall be in accordance with applicable portions of article 821.02 of standard specifications and IDOT District 1 special provision except the independent testing will not be required.

**CONSTRUCTION REQUIREMENTS**

**Installation.** The installation shall be in accordance with the articles 821.03 and 821.05. Luminaire shall be installed on temporary wood lighting unit.

Add the following table(s) to Article 1067 of the Standard Specifications:

**IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE  
 HORIZONTAL MOUNT for 750W HPS temporary luminaire**

GIVEN CONDITIONS		
<b>ROADWAY DATA</b>	Pavement Width	22 (ft) (10 ft median)
	Number of Lanes	2
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
<b>LIGHT POLE DATA</b>	Mounting Height	80 (ft)
	Mast Arm Length	15 (ft)
	Pole Set-Back From Edge of Pavement	See sketch
<b>LUMINAIRE DATA</b>	Lamp Type	HPS
	Lamp Lumens	110000
	I.E.S. Vertical Distribution	Medium
	I.E.S. Control Of Distribution	Cutoff
	I.E.S. Lateral Distribution	Type III
	Total Light Loss Factor	0.70
<b>LAYOUT DATA</b>	Spacing	380 (ft)
	Configuration	Opposite sided
	Luminaire Overhang over edge of pavement	See sketch

**NOTE:** Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

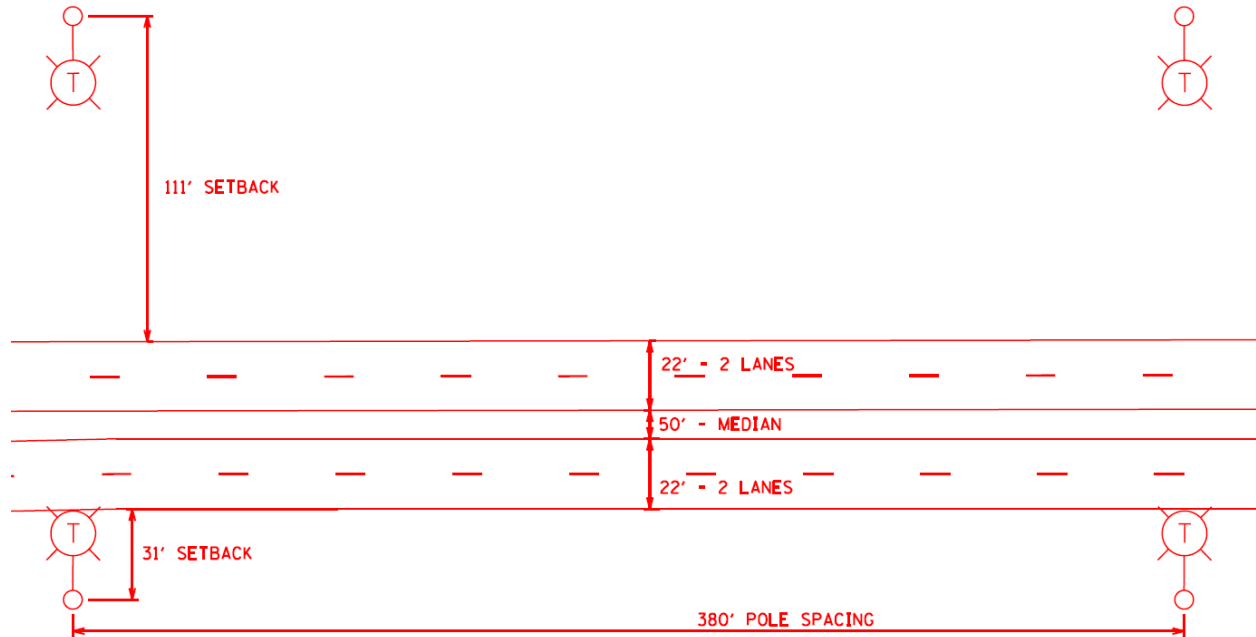
**PERFORMANCE REQUIREMENTS**

**NOTE:** These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

**LUMINANCE**

Average Luminance,  $L_{AVE}$   
 Uniformity Ratio,  $L_{AVE}/L_{MIN}$   
 Uniformity Ratio,  $L_{MAX}/L_{MIN}$   
 Veiling Luminance Ratio,  $L_V/L_{AVE}$

Average Luminance, $L_{AVE}$	0.6 Cd/m <sup>2</sup>
Uniformity Ratio, $L_{AVE}/L_{MIN}$	3.0:1 (Max)
Uniformity Ratio, $L_{MAX}/L_{MIN}$	5.0:1 (Max)
Veiling Luminance Ratio, $L_V/L_{AVE}$	0.30:1 (Max)



LIGHT POLE CONFIGURATION FOR  
 TEMPORARY LIGHTING LUMINAIRE 750W HPS

**Basis Of Payment.** This work will be paid for at the contract unit price each for **TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 750 WATT** which shall be payment in full for the work specified herein.

## TEMPORARY ELECTRIC SERVICE INSTALLATION

**Description.** This item shall consist of installing, modifying or extending an electric service temporarily to feed relocated lighting controller during the construction which is over and above the work performed by the utility. The cost of utility work if any, will be reimbursed to the Contractor in accordance to article 109.05. The removal of temporary electric service installation shall be incidental to this pay item.

**Materials.** The materials shall in accordance with article 804.02 of standard specifications.

## CONSTRUCTION REQUIREMENTS

**General.** The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not included by other contract pay items required to complete the temporary electric service work in complete compliance with the requirements of the utility.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein

The Contractor may choose to use existing service location for temporary electric service as coordinated with the utility and the Engineer. Temporary electric service shall be removed after permanent electric service is installed and ready for connection.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **TEMPORARY ELECTRIC SERVICE INSTALLATION** which shall be payment in full for the work specified herein.

## MAINTENANCE OF LIGHTING SYSTEMS

Effective: January 1, 2012

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

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

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

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

Lighting systems along I-57 (IDOT) and Central Avenue (University Park) are included in this item.

#### Maintenance of Existing Lighting Systems

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

#### Extent of Maintenance.

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

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

#### Maintenance of Proposed Lighting Systems

**Proposed Lighting Systems.** Proposed lighting systems shall be defined as any lighting system or part of a lighting system, temporary or permanent, which is to be constructed under this contract.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, vandalism, or other means. The potential cost of replacing or repairing any malfunctioning, damaged, or vandalized equipment shall be included in the bid price of this item and will not be paid for separately.

### Lighting System Maintenance Operations

The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract, State of Illinois, Department of Transportation, Division of Highways, District One. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service. The equipment shall then be re-set by the contractor within the time limits specified herein.

If the equipment damaged by normal vehicular traffic, not contractor operations, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

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

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

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Radio problem	1 hour	4 hours	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey or reported to EMC	na	na	7 Calendar days
Navigation light outage	na	na	24 hours

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.
- **Service Restoration Time** – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)
- **Permanent Repair Time** – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.



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

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

#### Operation of Lighting

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods.

#### Method of Measurement

The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the lighting systems are not maintained and not operational will not be paid for. Payment shall not be made retroactively for months in which lighting systems were not operational.

**Basis of Payment.** Maintenance of lighting systems shall be paid for at the contract unit price per calendar month for **MAINTENANCE OF LIGHTING SYSTEM**, which shall include all work as described herein.

#### **LIGHTING CONTROLLER FOUNDATION**

Description: This item shall consist of constructing concrete foundation and work pad for lighting controller. Foundation shall be as per BE-205 of District One Standard Details and shall be constructed in accordance with the Standard Drawings.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials

Item	Article/Section
(a) Portland Cement Concrete (Class SI)	1020
(b) Conduit	1088.01
(c) Anchor Rods	1070.02

**Installation.** The lighting controller installation shall be according to the details, location, and orientation shown on the plans.

Work Pad. A 4 in. (100 mm) thick portland cement concrete work pad, not less than 48 x 48 in. (1.2 x 1.2 m) shall be provided in front of the cabinet, except where the cabinet faces an adjacent sidewalk.

All conduit entrances into the lighting controller shall be sealed with a pliable waterproof material.

Concrete Foundation. The Contractor shall confirm the orientation of the lighting controller, and its door side, with the Engineer, prior to installing the foundation. A portland cement concrete foundation shall be constructed to the details shown on the plans. The top of the foundation shall be 12-inches above grade.

The lighting controller enclosure shall be set plumb and level on the foundation. It shall be fastened to the anchor rods with hot-dipped galvanized or stainless steel nuts and washers. Foundation mounted lighting controllers shall be caulked at the base with silicone.

Where the controller has a metal bottom plate, the plate shall be sealed with a rodent and dust/moisture barrier.

Excavation and backfill required will not be measured separately for payment, but will be considered as included in the contract unit price for Lighting Controller Foundation.

**Basis of Payment:** This work will be paid at the contract unit price each for "LIGHTING CONTROLLER FOUNDATION."

**LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 10" X 8"**

**Description.** This item shall consist of the furnishing and installing of a metal light pole foundation.

**Materials.** Materials shall be according to the following articles of IDOT standard specifications.

Item	Article/Section
(a) Light Pole Foundation, Metal	1070.01
(b) Fine Aggregate	1003.04
(c) Grout (Note 1)	1024.01

Note 1: The grout mixture shall be one part cement and two parts sand mixed with water

### CONSTRUCTION REQUIREMENTS

**Installation.** Installation shall meet application requirements of articles 836.03 and 836.03 (b) of IDOT standard specifications.

**Method of Measurement.** The light pole foundation, metal will be measured for payment in each in place. Relocation of a foundation due to an obstruction and any shaft drilling to that point will not be measured for payment.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 10" X 8"** which shall be payment in full for the work specified herein.

### JUNCTION BOX EMBEDDED IN STRUCTURE

Effective: January 1, 2012

**Description.** This work shall consist of furnishing and installing an embedded Composite Concrete Junction Box in concrete.

**Materials.** The box and cover shall be constructed of a polymer concrete and reinforced with a heavy-weave fiberglass cloth. The material shall have the following properties:

Mechanical Property	Value	Physical Property	Value
Compressive strength	9,000 – 15,000 psi	Density	85-150 lbs/ft <sup>2</sup>
flexural strength	3,000 – 6,000 psi	Barcol Hardness	45
Impact Energy	30 – 72 ft.-lbs	Water Absorption	Less Than 1%
tensile strength	800 – 1,100 psi		

The resulting enclosure shall have a Tier 8 Load Rating in accordance with ANSI/SCTE 77 2002. The material shall have light gray color to match the surrounding concrete. The cover shall be made of the same material. The junction box and cover shall be arranged to fit flush with the structure surface. The cover shall be gasketed and attached with a minimum of four stainless steel hex-head bolts factory coated with anti-seize compound. The enclosure shall be UL Listed.

**Installation.** The embedded junction box shall be set flush with the adjoining surface and shall be properly supported during concrete placement. Concrete cover shall not be less than 3 in. (75 mm) all around the embedded junction box. The junction box shall not be installed in areas where vehicular traffic may drive over the junction box.

Field cut conduit openings shall be uniform and smooth. All burrs and rough edges shall be filed smooth to the satisfaction of the Engineer prior to the installation of conduit(s) into the junction box. Field cut conduit openings shall be fitted with the appropriate conduit fittings and accessories. Conduit fittings and accessories shall be provided according to Article 1088.01 and as shown on the plans.

Conduit openings may be factory cut and pre-assembled with conduit fittings. Conduit fittings and accessories shall be manufactured from polyvinyl chloride complying with ASTM D 1784 and shall comply with all the applicable requirements of NEMA Publication No. TC2, U.L. Standard 651 for EPC-40-PVC and NEC Article 347.

Slight deviations to a larger size than the specified sizes may be allowed to conform to a standard manufacturer's production size with the approval of the Engineer.

Basis of Payment. This work will be paid for at the contract unit price each for **JUNCTION BOX, EMBEDDED IN STRUCTURE**, of the type and size when specified. The Contractor may, with the approval of the Engineer, use box sizes larger than indicated, at no additional cost to the Department.

### **TRAFFIC SIGNAL SPECIFICATIONS**

Effective: May 22, 2002

Revised: January 1, 2012

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer. Traffic signal construction and maintenance work shall be performed by personnel holding IMSA Traffic Signal Technician Level II certification. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

### **SECTION 720 SIGNING**

#### **MAST ARM SIGN PANELS**

Add the following to Article 720.02 of the Standard Specifications:

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by the District Sign Shops. Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware are acceptable based upon the Department's approval.

## **DIVISION 800 ELECTRICAL**

### **SUBMITTALS**

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted in accordance with the District's current Electrical Product Data and Documentation Submittal Guidelines. General requirements include:

1. Material approval requests shall be made at the preconstruction meeting, including major traffic signal items listed in the table in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
2. Product data and shop drawings shall be assembled by pay item and separated from other pay item submittals. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Partial or incomplete submittals will be returned without review.
4. Certain non-standard mast arm poles and structures will require additional review from IDOT's Central Office. Examples include ornamental/decorative and non-standard length mast arm pole assemblies. The Contractor shall account for the additional review time in his schedule.
5. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence,, catalog cuts and mast arm poles and assemblies drawings.
6. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
7. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
8. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.

9. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

### **INSPECTION OF ELECTRICAL SYSTEMS.**

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier facilities prior to field installation, at no extra cost to this contract.

### **MAINTENANCE AND RESPONSIBILITY.**

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, or the Municipality in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. Automatic Traffic Enforcement equipment is not owned by the State and the Contractor shall not be responsible for maintaining it during construction. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.

- b. When the project has a pay item for “Maintenance of Existing Traffic Signal Installation,” “Temporary Traffic Signal Installation(s)” and/or “Maintenance of Existing Flashing Beacon Installation,” the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department’s Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.
- c. Contracts such as pavement grinding or patching which result in the destruction of traffic signal loops do not require maintenance transfer, but require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department’s Electrical Maintenance Contractor, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection. Damaged Automatic Traffic Enforcement equipment, including cameras, detectors, or other peripheral equipment, shall be replaced by others, per Permit agreement, at no cost to the contract. See additional requirements in these specifications under Inductive Loop Detector.
- d. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shutdown the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

- e. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The District's Electrical Maintenance Contractor may inspect any signaling device on the Department's highway system at any time without notification.
  
- f. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

**DAMAGE TO TRAFFIC SIGNAL SYSTEM.**

Add the following to Article 801.12(b) of the Standard Specifications to read:

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

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause whatsoever, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.



**TRAFFIC SIGNAL INSPECTION (TURN-ON).**

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the vendor prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will not grant a field inspection until notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Department's facsimile number is (847) 705-4089. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to direct traffic at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons. Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following from the Contractor at traffic signal turn-ons.

1. One set of signal plans of record with field revisions marked in red ink.
2. Written notification from the Contractor and the equipment vendor of satisfactory field testing.
3. A knowledgeable representative of the controller equipment supplier shall be required at the traffic signal turn-on. The representative shall be knowledgeable of the cabinet design and controller functions.
4. A copy of the approved material letter.
5. One (1) copy of the operation and service manuals of the signal controller and associated control equipment.
6. Five (5) copies 11" x 17" (280 mm X 430 mm) of the cabinet wiring diagrams.
7. The controller manufacturer shall supply a printed form, not to exceed 11" x 17" (280 mm X 430 mm) for recording the traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
8. All manufacturer and contractor warranties and guarantees required by Article 801.14.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

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

## RECORD DRAWINGS

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2<sup>nd</sup> paragraph of Article 801.16 of the Standard Specifications to read:

- a. "When the work is complete, and seven days before the request for a final inspection, the full-size set of contract drawings. Stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval.
- b. In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible."
- c. Additional requirements are listed in the District's Electrical Product Data and Documentation Guidelines.

Add the following to Article 801.16 of the Standard Specifications:

"In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

1. Description of item
2. Designation or approximate station if the item is undesignated
3. Latitude
4. Longitude

Examples:

Description	Designation	Latitude	Longitude
Mast Arm Pole Assembly (dual, combo, etc)	MP (SW, NW, SE or NE corner)	41.580493	87.793378
FO mainline splice handhole	HHL-ST31	41.558532	87.792571
Handhole	HH	41.765532	87.543571
Electric Service	Elec Srv	41.602248	87.794053
Conduit crossing	SB IL83 to EB I290 ramp SIDE A	41.584593	87.793378
PTZ Camera	PTZ	41.584600	87.793432
Signal Post	Post	41.558532	87.792571
Controller Cabinet	CC	41.651848	87.762053
Master Controller Cabinet	MCC	41.580493	87.793378
Communication Cabinet	ComC	41.558532	87.789771
Fiber splice connection	Toll Plaza34	41.606928	87.794053

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 100 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 5 meter accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

Delete the last sentence of the 3<sup>rd</sup> paragraph of Article 801.16.

### **LOCATING UNDERGROUND FACILITIES.**

Revise Section 803 to the Standard Specifications to read:

If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

### **RESTORATION OF WORK AREA.**

Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, trench and backfill, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

**ELECTRIC SERVICE INSTALLATION.**

Revise Section 805 of the Standard Specifications to read:

Description.

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

General.

The electric service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company to the Engineer and Area Traffic Signal Maintenance and Operations Engineer. The service agreement and sketch shall be submitted for signature to the IDOT’s Traffic Operations Programs Engineer.

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures.
  1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.

2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.
- c. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <math><5n</math> seconds and operate within a range of  $-40C$  to  $+85C$ . The surge protector shall be UL 1449 Listed.
- d. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- e. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
- f. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.

- g. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.
- h. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

**Installation.**

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

**Basis of Payment.**

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The CONCRETE FOUNDATION, TYPE A, which includes the ground rod, shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch (20mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

**GROUNDING OF TRAFFIC SIGNAL SYSTEMS.**

**Revise Section 806 of the Standard Specifications to read:**

**General.**

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



The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable concrete foundation or service installation pay item and will not be paid for separately.

Testing shall be according to Article 801.13 (a) (4) and (5).

- (a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- (b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.
  1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.
  2. Equipment grounding conductors shall be bonded, using a Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A Listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations.
  3. All metallic and non-metallic raceways containing traffic signal circuit runs shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.
  4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, listed pressure connectors, listed clamps or other approved listed means.

**GROUNDING EXISTING HANDHOLE FRAME AND COVER.**

Description.

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

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

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

The grounding cable shall be paid for separately.

Method of Measurement.

Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment.

This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

**COILABLE NON-METALLIC CONDUIT.**

Description.

This work shall consist of furnishing and installing empty coilable non-metallic conduit (CNC) for detector loop raceways.

General.

The CNC installation shall be in accordance with Sections 810 and 811 of the Standard Specifications except for the following:

Add the following to Article 810.03 of the Standard Specifications:

CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes.

Add the following to Article 811.03 of the Standard Specifications:

On temporary traffic signal installations with detector loops, CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways from the saw-cut to 10 feet (3m) up the wood pole, unless otherwise shown on the plans

**Basis of Payment.**

All installations of CNC for loop detection shall be included in the contract and not paid for separately.

**HANDHOLES.**

Add the following to Section 814 of the Standard Specifications:

All handholes shall be concrete, poured in place, with inside dimensions of 21-1/2 inches (549mm) minimum. Frames and lid openings shall match this dimension. The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (15.875mm) diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (300mm).

All conduits shall enter the handhole at a depth of 30 inches (760mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (12.7 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (150 mm). Hooks shall be placed a minimum of 12 inches (300 mm) below the lid or lower if additional space is required.

**GROUNDING CABLE.**

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

Add the following to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

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

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, conduit grounding bushings, and other hardware.

**RAILROAD INTERCONNECT CABLE.**

The cable shall meet the requirements of Section 873 of the Standard Specifications, except for the following:

Add to Article 873.02 of the Standard Specifications:

The railroad interconnect cable shall be three conductor stranded #14 copper cable in a clear polyester binder, shielded with #36 AWG tinned copper braid with 85% coverage, and insulated with .016" polyethylene (black, blue, red). The jacket shall be black 0.045 PVC or polyethylene.

Add the following to Article 873.05 of the Standard Specifications:

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for ELECTRIC CABLE IN CONDUIT, RAILROAD, NO. 14 3C, which price shall be payment in full for furnishing, installing, and making all electrical connections in the traffic signal controller cabinet. Connections in the railroad controller cabinet shall be performed by railroad personnel.

**FIBER OPTIC TRACER CABLE.**

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

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable will be allowed to be spliced at handholes only. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. All exposed surfaces of the solder shall be smooth. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600v, minimum length 4 inches (100 mm) and with a minimum 1 inch (25 mm) coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

**MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.**

Revise Articles 850.02 and 850.03 of the Standard Specifications to read:

Procedure.

The energy charges for the operation of the traffic signal installation shall be paid for by others. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof.

The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, uninterruptible power supply (UPS and batteries), telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment, but shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment, not owned by the State.

Maintenance.

The maintenance shall be according to MAINTENANCE AND RESPONSIBILITY in Division 800 of these specifications and the following:

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

The Contractor shall respond to all emergency calls from the Department or others within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work required. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

**TRAFFIC ACTUATED CONTROLLER.**

Add the following to Article 857.02 of the Standard Specifications:

Controllers shall be NTCIP compliant NEMA TS2 Type 1, Econolite ASC/3S-1000 or Eagle/Siemens M50 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment manufacturers will be allowed. The controller shall be the most recent model and software version supplied by the manufacturer at the time of the approval and include the standard data key. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events.

Add the following to Article 857.03 of the Standard Specifications:

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET as called for on the traffic signal installation plans. If the traffic signal installation is part of a traffic signal system, a telephone line is usually not required, unless a telephone line is called for on the traffic signal plans. The Contractor shall follow the requirements for the telephone service installation as contained in the current District One Traffic Signal Special Provisions under Master Controller.

**MASTER CONTROLLER.**

Revise Articles 860.02 - Materials and 860.03 - Installation of the Standard Specifications to read:

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be allowed. Only NEMA TS 2 Type 1 Eagle/Siemens and Econolite closed loop systems shall be supplied. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in Section 863 of the Standard Specifications include:

The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

Upon request by the Engineer, each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacture's support. Each set shall consist of software on CD, DVD, or other suitable media approved by the Engineer, and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation, if other than IDOT. One of these two sets will be provided to the Agency Signal Maintenance Contractor for use in monitoring the system.

The approved manufacturer of equipment shall loan the District one master controller and two intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the Contract.

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process utilizing District One staff. This telephone line may be coupled with a DSL line and a phone filter to isolate the dial-up line. An E911 address is required.

The cabinet shall be provided with an Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date.

Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud minimum and shall be capable of speeds to 38,400 or above as technology allows. The controller, when installed in an Ethernet topology, may operate non-serial communications.

The cabinet shall be equipped with a 9600 baud, auto dial/auto answer modem. It shall be a US robotics 33.6K baud rate or equal.

As soon as practical or within one week after the contract has been awarded, the Contractor shall contact (via phone) the Administrative Support Manager in the District One Business Services Section at (847) 705-4011 to request a phone line installation.

A follow-up fax transmittal to the Administrative Support Manager (847-705-4712) with all required information pertaining to the phone installation is required from the Contractor as soon as possible or within one week after the initial request has been made. A copy of this fax transmittal must also be faxed by the Contractor to the Traffic Signal Systems Engineer at (847) 705-4089. The required information to be supplied on the fax shall include (but not limited to): A street address for the new traffic signal controller (or nearby address); a nearby existing telephone number; what type of telephone service is needed; the name and number of the Contractor's employee for the telephone company to contact regarding site work and questions.



The usual time frame for the activation of the phone line is 4-6 weeks after the Business Services Section has received the Contractor supplied fax. It is, therefore, imperative that the phone line conduit and pull-string be installed by the Contractor in anticipation of this time frame. On jobs which include roadway widening in which the conduit cannot be installed until this widening is completed, the Contractor will be allowed to delay the phone line installation request to the Business Services Section until a point in time that is 4-6 weeks prior to the anticipated completion of the traffic signal work. The contractor shall provide the Administrative Support Manager with an expected installation date considering the 4-6 week processing time.

The telephone line shall be installed and activated one month before the system final inspection.

All costs associated with the telephone line installation and activation (not including the Contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the District One Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

### **UNINTERRUPTIBLE POWER SUPPLY.**

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of six hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTIBLE POWER SUPPLY in Division 1000 of these specifications.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet. The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Revise Article 862.04 of the Standard Specifications to read:

#### **Installation.**

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract. A concrete apron 67 in. x 50 in. x 5 in. (1702mm x 1270mm x 130mm) shall be provided on the side of the existing Type D Foundation, where the UPS cabinet is located. The concrete apron shall follow the District 1 Standard Traffic Signal Design Detail, Type D for Ground Mounted Controller Cabinet and UPS Battery Cabinet. The concrete apron shall follow Articles 424 and 202 of the Standard Specifications.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the UPS.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTIBLE POWER SUPPLY SPECIAL. Replacement of Emergency Vehicle Priority System confirmation beacons and any required modifications to the traffic signal controller shall be included in the cost of the UNINTERRUPTIBLE POWER SUPPLY SPECIAL item. The concrete apron and earth excavation required shall be included in the cost of the UNINTERRUPTIBLE POWER SUPPLY SPECIAL item.

**FIBER OPTIC CABLE.**

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 872.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be CSC FTWO12KST-W/O 12 Port Fiber Wall Enclosure or an approved equivalent. The fiber optic cable shall provide six fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

**MAST ARM ASSEMBLY AND POLE.**

Revise Article 877.01 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a steel mast arm assembly and pole and a galvanized steel or extruded aluminum shroud for protection of the base plate.

Revise Article 877.03 of the Standard Specifications:

Mast arm assembly and pole shall be as follows.

- (a) Steel Mast Arm Assembly and Pole and Steel Combination Mast Arm Assembly and Pole. The steel mast arm assembly and pole and steel combination mast arm assembly and pole shall consist of a traffic signal mast arm, a luminaire mast arm or davit (for combination pole only), a pole, and a base, together with anchor rods and other appurtenances. The configuration of the mast arm assembly, pole, and base shall be according to the details shown on the plans.
- (1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans, whichever is greater. The design shall be according to AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 1994 Edition for 80 mph (130 km/hr) wind velocity. However, the arm-to-pole connection for tapered signal and luminaire arms shall be according to the "ring plate" detail as shown in Figure 11-1(f) of the 2002 Interim, to the AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 2001 4th Edition.
- (2) Structural Steel Grade. The mast arm and pole shall be fabricated according to ASTM A 595, Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2. The base and flange plates shall be of structural steel according to AASHTO M 270 Grade 50 (M 270M Grade 345). Luminaire arms and trussed arms 15 ft (4.5 m) or less shall be fabricated from one steel pipe or tube size according to ASTM A 53 Grade B or ASTM A 500 Grade B or C. All mast arm assemblies, poles, and bases shall be galvanized according to AASHTO M 111.
- (3) Fabrication. The design and fabrication of the mast arm assembly, pole, and base shall be according to the requirements of the Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals published by AASHTO. The mast arm and pole may be of single length or sectional design. If section design is used, the overlap shall be at least 150 percent of the maximum diameter of the overlapping section and shall be assembled in the factory.

The manufacturer will be allowed to slot the base plate in which other bolt circles may fit, providing that these slots do not offset the integrity of the pole. Circumferential welds of tapered arms and poles to base plates shall be full penetration welds.

- (4) Shop Drawing Approval. The Contractor shall submit detailed drawings showing design materials, thickness of sections, weld sizes, and anchor rods to the Engineer for approval prior to fabrication. These drawings shall be at least 11 x 17 in. (275 x 425 mm) in size and of adequate quality for microfilming. All product data and shop drawings shall be submitted in electronic form on CD-ROM
- (b) Anchor Rods. The anchor rods shall be ASTM F 1554 Grade 105, coated by the hot-dip galvanizing process according to AASHTO M 232, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and have a bend at the other end. The first 12 in. (300 mm) at the threaded end shall be galvanized. Two nuts, one lock washer, and one flat washer shall be furnished with each anchor rod. All nuts and washers shall be galvanized.
- (c) The galvanized steel or extruded aluminum shroud shall have dimensions similar to those detailed in the "District One Standard Traffic Signal Design Details." The shroud shall be installed such that it allow air to circulate throughout the mast arm but not allow infestation of insects or other animals, and such that it is not hazardous to probing fingers and feet.

Add the following to Article 877.04 of the Standard Specifications:

The shroud shall not be paid for separately but shall be included in the cost of the mast arm assembly and pole.

### **CONCRETE FOUNDATIONS.**

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. (300 mm) from the threaded end.

Concrete Foundations, Type "A" for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the "District One Standard Traffic Signal Design Details." All Type "A" foundations shall be a minimum depth of 48 inches (1220 mm).

Concrete Foundations, Type "C" for Traffic Signal Cabinets with Uninterruptible Power Supply (UPS) cabinet installations shall be a minimum of 72 inches (1830 mm) long and 31 inches (790 mm) wide. All Type "C" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron in front of the Type IV or V cabinet shall be 36 in. x 48 in. x 5 in. (915 mm X 1220 mm X 130 mm). The concrete apron in front of the UPS cabinet shall be 36 in. x 67 in. x 5 in. (915 mm X 1700 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "D" for Traffic Signal Cabinets shall be a minimum of 48 inches (1220 mm) long and 31 inches (790 mm) wide. All Type "D" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron shall be 36 in. x 48 in. x 5 in. (910 mm X 1220 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "E" for Mast Arm and Combination Mast Arm Poles shall meet the current requirements listed in the Highway Standards.

Foundations used for Combination Mast Arm Poles shall provide an extra 2-1/2 inch (65 mm) raceway.

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation.

**LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED LED SIGNAL HEAD.**

Add the following to the first paragraph of Article 880.04 of the Standard Specifications:

**Basis of Payment.**

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

**LIGHT EMITTING DIODE (LED), SIGNAL HEAD, RETROFIT**

**Description.**

This work shall consist of retrofitting an existing polycarbonate traffic signal head with a traffic signal module, pedestrian signal module, and pedestrian countdown signal module, with light emitting diodes (LEDs) as specified in the plans.

**Materials.**

Materials shall be according to LIGHT EMITTING DIODE (LED) AND OPTICALLY PROGRAMMED LED SIGNAL HEAD, AND LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD in Divisions 880, 881 and 1000 of these specifications.

Add the following to Article 880.04 of the Standard Specifications:

**Basis of Payment.**

This item shall be paid for at the contract unit price each for SIGNAL HEAD, LED, RETROFIT, or PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, for the type and number of polycarbonate signal heads, faces, and sections specified, which price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

**LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD**

Add the following to the third paragraph of Article 881.03 of the Standard Specifications:

No mixing of different types of pedestrian traffic signals or displays will be permitted.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with the housings glossy black polycarbonate. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.
- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Add the following to Article 881.04 of the Standard Specifications:

**Basis of Payment.**

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

## **DETECTOR LOOP.**

Revise Section 886 of the Standard Specifications to read:

### Description.

This work shall consist of furnishing and installing a detector loop in the pavement.

### Procedure.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4424 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the Portland cement concrete surface, using the same notification process as above.

### Installation.

Loop detectors shall be installed according to the requirements of the "District One Standard Traffic Signal Design Details." Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit PLFIM water proof tag, or an approved equal, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

- (a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4 inch (6.3 mm) deep x 4 inches (100 mm) saw cut to mark location of each loop lead-in.
- (b) Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Percol Elastic Cement AC Grade or an approved equal. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface, if installed above the surface the overlap shall be removed immediately.
- (c) Detector loop measurements shall include the saw cut and the length of the loop lead-in to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be included in the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

- (d) Preformed. This work shall consist of furnishing and installing a rubberized or crosslinked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:
- (e) Preformed detector loops shall be installed in new pavement constructed of Portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. Loop lead-ins shall be extended to a temporary protective enclosure near the proposed handhole location. The protective enclosure shall provide sufficient protection from other construction activities and may be buried for additional protection.
- (f) Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. Non-metallic coilable duct, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.
- (g) Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 11/16 inch (17.2 mm) outside diameter (minimum), 3/8 inch (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kPa) internal pressure rating or a similarly sized XLPE cable jacket. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. For XLPE jacketed preformed loops, all splice connections shall be soldered, sealed, and tested before being sealed in a high impact glass impregnated plastic splice enclosure. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole.

Method of Measurement.

This work will be measured for payment in feet (meters) in place. Type I detector loop will be measured along the sawed slot in the pavement containing the loop and lead-in, rather than the actual length of the wire. Preformed detector loops will be measured along the detector loop and lead-in embedded in the pavement, rather than the actual length of the wire.



Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

**EMERGENCY VEHICLE PRIORITY SYSTEM.**

Revise Section 887 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District One Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, maximum 6 watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signalized by a flashing indication at the rate specified by Section 4L.01 of the "Manual on Uniform Traffic Control Devices," and other applicable sections of future editions. The stopped pre-empted movements shall be signalized by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz  $\pm$ 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the EMERGENCY VEHICLE PRIORITY SYSTEM.

Basis of Payment.

The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be included in the cost of the Light Detector. Any required modifications to the traffic signal controller shall be included in the cost of the LIGHT DETECTOR AMPLIFIER. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

## **TEMPORARY TRAFFIC SIGNAL INSTALLATION.**

Revise Section 890 of the Standard Specifications to read:

### Description.

This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptible power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Traffic Management System.

### General.

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. Also, an approved equipment vendor shall assemble and test a temporary railroad traffic signal cabinet. (Refer to the "Inspection of Controller and Cabinet" specification). A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

### Construction Requirements.

#### (a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption. All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications as modified herein.
2. Only control equipment, including controller cabinet and peripheral equipment, supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary traffic signal locations. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.

- (b) Cabinets. All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4 inch (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.
- (c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 806 of the Standard Specifications and shall meet the requirements of the District 1 Traffic Signal Specifications for "Grounding of Traffic Signal Systems."
- (d) Traffic Signal Heads. All traffic signal sections and pedestrian signal sections shall be 12 inches (300 mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. Pedestrian signal heads shall be Light Emitting Diode (LED) Pedestrian Countdown Signal Heads except when a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting Diode (LED) Pedestrian Signal Heads shall be furnished. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.
- (e) Interconnect.
  - 1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.

2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the item Temporary Traffic Signal Installation. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project.
3. Temporary wireless interconnect, complete. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This item shall include all temporary wireless interconnect components, complete, at the adjacent existing traffic signal(s) to provide a completely operational closed loop system. This item shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:
  - a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
  - b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
  - c. Antennas (Omni Directional or Yagi Directional)
  - d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
  - e. Brackets, Mounting Hardware, and Accessories Required for Installation
  - f. RS232 Data Cable for Connection from the radio to the local or master controller
  - g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in this item.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardware system.

The proposed master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the manufacturers recommendations.

The following radio equipment is currently approved for use in Region One/District One: Encom Model 5100 and Intuicom Communicator II.

- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz  $\pm$ 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.
- (g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. All approaches shall have vehicular detection provided by vehicle detection system as shown on the plans or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system shall be approved by IDOT prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.
- (h) Uninterruptible Power Supply. All temporary traffic signal installations shall have Uninterruptible Power Supply (UPS). The UPS cabinet shall be mounted to the temporary traffic signal cabinet and meet the requirements of Uninterruptible Power Supply in Divisions 800 and 1000 of these specifications.

- (i) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost. Any intersection regulatory signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing the regulatory signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer.
- (j) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.
- (k) Maintenance. Maintenance shall meet the requirements of the Standard Specifications and MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION in Division 800 of these specifications. Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic Operations (847) 705-4424 for an inspection of the installation(s).
- (l) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, District One Traffic Signal Specifications and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition all electric cable shall be aially suspended, at a minimum height of 18 feet (5.5m) on temporary wood poles (Class 5 or better) of 45 feet (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system may be used in place of detector loops as approved by the Engineer.

(m) Temporary Portable Traffic Signal for Bridge Projects.

1. Unless otherwise directed by the Engineer, temporary portable traffic signals shall be restricted to use on roadways of less than 8000 ADT that have limited access to electric utility service, shall not be installed on projects where the estimated need exceeds ten (10) weeks, and shall not be in operation during the period of November through March. The Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract if the bridge project or Engineer requires temporary traffic signals to remain in operation into any part of period of November through March. If, in the opinion of the engineer, the reliability and safety of the temporary portable traffic signal is not similar to that of a temporary span wire traffic signal installation, the Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract.
2. The controller and LED signal displays shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification.
3. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.
4. General.
  - a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.
  - b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.
  - c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
  - d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.

- e. All portable traffic signal units shall be interconnected using hardware communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
- f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as nonoperating equipment according to Article 701.11.
- g. Basis of Payment. This work will be paid for according to Article 701.20(c).

Basis of Payment.

This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, the price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, the temporary wireless interconnect system complete, temporary fiber optic interconnect system complete, all material required, the installation and complete removal of the temporary traffic signal. Each intersection will be paid for separately.

**REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.**

Add the following to Article 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of outside the right-of-way at the Contractor's expense.



All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide 5 copies of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned with these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up or delivery of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

### **TRAFFIC SIGNAL PAINTING.**

#### Description.

This work shall include surface preparation, powder type painted finish application and packaging of new galvanized steel traffic signal mast arm poles and posts assemblies. All work associated with applying the painted finish shall be performed at the manufacturing facility for the pole assembly or post or at a painting facility approved by the Engineer. Traffic signal mast arm shrouds and post bases shall also be painted the same color as the pole assemblies and posts.

#### Surface Preparation.

All weld flux and other contaminates shall be mechanically removed. The traffic mast arms and post assemblies shall be degreased, cleaned, and air dried to assure all moisture is removed.

#### Painted Finish.

All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. Prior to application, the surface shall be mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450 °F for a minimum one (1) hour. The coating shall be electrostatically applied and cured by elevating the zinc-coated substrate temperature to a minimum of 400 °F.

The finish paint color shall be one of the manufacturer's standard colors and shall be as selected by the local agency responsible for paint costs. The Contractor shall confirm, in writing, the color selection with the local responsible agency and provide a copy of the approval to the Engineer and a copy of the approval shall be included in the material catalog submittal.

Painting of traffic signal heads, pedestrian signal heads and controller cabinets is not included in this pay item.

Any damage to the finish after leaving the manufacturer's facility shall be repaired to the satisfaction of the Engineer using a method recommended by the manufacturer and approved by the Engineer. If while at the manufacturer's facility the finish is damaged, the finish shall be re-applied at no cost to the contract.

Warranty.

The Contractor shall furnish in writing to the Engineer, the paint manufacturer's standard warranty and certification that the paint system has been properly applied.

Packaging.

Prior to shipping, the poles and posts shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

Basis of Payment.

This work shall be paid for at the contract unit price each for PAINT NEW MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, PAINT NEW COMBINATION MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW COMBINATION MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, or PAINT NEW TRAFFIC SIGNAL POST of the length specified, which shall be payment in full for painting and packaging the traffic signal mast arm poles and posts described above including all shrouds, bases and appurtenances.

**ILLUMINATED STREET NAME SIGN**

Description.

This work shall consist of furnishing and installing a LED internally illuminated street name sign.

Materials.

Materials shall be in accordance with ILLUMINATED STREET NAME SIGN in Division 1000 of these specifications.

Installation.

The sign can be mounted on most steel mast arm poles. Mounting on aluminum mast arm pole requires supporting structural calculations. Some older or special designed steel mast arm poles may require structural evaluation to assure that construction of the mast arm pole is adequate for the proposed additional loading. Structural calculations and other supporting documentation as determined by the Engineer shall be provided by the contractor for review by the Department.

The sign shall be located on a steel traffic signal mast arm no further than 8-feet from the center of the pole to the center of the sign at a height of between 16 to 18-feet above traveled pavement. Mounting hardware shall be Pelco model SE-5015, or approved equal, utilizing stainless steel components.

Signs shall be installed such that they are not energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptible power supply (UPS). The signs shall be connected to the generator or UPS bypass circuitry.

Basis of Payment.

This work will be paid for at the contract unit price each for ILLUMINATED STREET NAME SIGN, of the length specified which shall be payment in full for furnishing and installing the LED internally illuminated street sign, complete with circuitry and mounting hardware including photo cell, circuit breaker, fusing, relay, connections and cabling as shown on the plans for proper operation and installation.

**RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM.**

Description.

This work shall consist of re-optimizing a closed loop traffic signal system according to the following Levels of work.

LEVEL I applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system. The purpose of this work is to integrate the improvements to the subject intersection into the signal system while minimizing the impacts to the existing system operation. This type of work would be commonly associated with the addition of signal phases, pedestrian phases, or improvements that do not affect the capacity at an intersection.

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

For the purposes of re-optimization work, an intersection shall include all traffic movements operated by the subject controller and cabinet.

After the signal improvements are completed, the signal shall be re-optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer disks, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

1. The following tasks are associated with LEVEL I Re-Optimization.
  - a. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system.
  - b. Proposed signal timing plan for the new or modified intersection(s) shall be forwarded to IDOT for review prior to implementation.
  - c. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations.
2. The following deliverables shall be provided for LEVEL I Re-Optimization.
  - a. Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
  - b. Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.

(b) LEVEL II Re-Optimization

1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
  - a. Traffic counts shall be taken at the subject intersection after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
  - b. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
  - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.
2. The following deliverables shall be provided for LEVEL II Re-Optimization.
  - a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
    - (1) Brief description of the project
    - (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
    - (3) Printed copies of the traffic counts conducted at the subject intersection
  - b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
    - (1) Electronic copy of the technical memorandum in PDF format
    - (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
    - (3) Traffic counts conducted at the subject intersection
    - (4) New or updated intersection graphic display file for the subject intersection
    - (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.

This work shall be paid for at the contract unit price each for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL I or RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL II, which price shall be payment in full for performing all work described herein per intersection. Following completion of the timings and submittal of specified deliverables, 100 percent of the bid price will be paid. Each intersection will be paid for separately.

## **OPTIMIZE TRAFFIC SIGNAL SYSTEM.**

### **Description.**

This work shall consist of optimizing a closed loop traffic signal system.

OPTIMIZE TRAFFIC SIGNAL SYSTEM applies when a new or existing closed loop traffic signal system is to be optimized and a formal Signal Coordination and Timing (SCAT) Report is to be prepared. The purpose of this work is to improve system performance by optimizing traffic signal timings, developing a time of day program and a traffic responsive program.

After the signal improvements are completed, the signal system shall be optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer disks, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) The following tasks are associated with OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Appropriate signal timings and offsets shall be developed for each intersection and appropriate cycle lengths shall be developed for the closed loop signal system.
2. Traffic counts shall be taken at all intersections after the permanent traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit and multi-unit heavy vehicles.
3. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
4. A traffic responsive program shall be developed, which considers both volume and occupancy. A time-of-day program shall be developed for used as a back-up system.

5. Proposed signal timing plan for the new or modified intersection shall be forwarded to IDOT for review prior to implementation.
  6. Consultant shall conduct on-site implementation of the timings and make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
  7. Speed and delay studies shall be conducted during each of the count periods along the system corridor in the field before and after implementation of the proposed timing plans for comparative evaluations. These studies should utilize specialized electronic timing and measuring devices.
- (b) The following deliverables shall be provided for OPTIMIZE TRAFFIC SIGNAL SYSTEM.
1. Consultant shall furnish to IDOT one (1) copy of a SCAT Report for the optimized system. The SCAT Report shall include the following elements:

<p><b>Cover Page in color showing a System Map</b></p>
<p><b>Figures</b></p> <ol style="list-style-type: none"> <li>1. System overview map – showing system number, system schematic map with numbered system detectors, oversaturated movements, master location, system phone number, cycle lengths, and date of completion.</li> <li>2. General location map in color – showing signal system location in the metropolitan area.</li> <li>3. Detail system location map in color – showing cross street names and local controller addresses.</li> <li>4. Controller sequence – showing controller phase sequence diagrams.</li> </ol>
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<p><b>Tab 1: Final Report</b></p> <ol style="list-style-type: none"> <li>1. Project Overview</li> <li>2. System and Location Description (Project specific)</li> <li>3. Methodology</li> <li>4. Data Collection</li> <li>5. Data Analysis and Timing Plan Development</li> <li>6. Implementation       <ol style="list-style-type: none"> <li>a. Traffic Responsive Programming (Table of TRP vs. TOD Operation)</li> </ol> </li> <li>7. Evaluation       <ol style="list-style-type: none"> <li>a. Speed and Delay runs</li> </ol> </li> </ol>
<p><b>Tab 2. Turning Movement Counts</b></p> <ol style="list-style-type: none"> <li>1. Turning Movement Counts (Showing turning movement counts in the intersection diagram for each period, including truck percentage)</li> </ol>
<p><b>Tab 3. Synchro Analysis</b></p> <ol style="list-style-type: none"> <li>1. AM: Time-Space diagram in color, followed by intersection Synchro report (Timing report) summarizing the implemented timings.</li> <li>2. Midday: same as AM</li> <li>3. PM: same as AM</li> </ol>
<p><b>Tab 4: Speed, Delay Studies</b></p> <ol style="list-style-type: none"> <li>1. Summary of before and after runs results in two (2) tables showing travel time and delay time.</li> <li>2. Plot of the before and after runs diagram for each direction and time period.</li> </ol>
<p><b>Tab 5: Environmental Report</b></p> <ol style="list-style-type: none"> <li>1. Environmental impact report including gas consumption, NO2, HCCO, improvements.</li> </ol>
<p><b>Tab 6: Electronic Files</b></p> <ol style="list-style-type: none"> <li>1. Two (2) CDs for the optimized system. The CDs shall include the following elements:       <ol style="list-style-type: none"> <li>a. Electronic copy of the SCAT Report in PDF format</li> <li>b. Copies of the Synchro files for the optimized system</li> <li>c. Traffic counts for the optimized system</li> <li>d. New or updated intersection graphic display files for each of the system intersections and the system graphic display file including system detector locations and addresses.</li> </ol> </li> </ol>



**Basis of Payment.**

The work shall be paid for at the contract unit each for OPTIMIZE TRAFFIC SIGNAL SYSTEM, which price shall be payment in full for performing all work described herein for the entire traffic signal system. Following the completion of traffic counts, 25 percent of the bid price will be paid. Following the completion of the Synchro analysis, 25 percent of the bid price will be paid. Following the setup and fine tuning of the timings, the speed-delay study, and the TRP programming, 25 percent of the bid price will be paid. The remaining 25 percent will be paid when the system is working to the satisfaction of the engineer and the report and CD have been submitted.

**TEMPORARY TRAFFIC SIGNAL TIMINGS**

**Description.**

This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMINGS.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings. Make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (b) Consultant shall provide monthly observation of traffic signal operations in the field.
- (c) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (d) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.

**Basis of Payment.**

The work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL TIMINGS, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.

**MODIFYING EXISTING CONTROLLER CABINET.**

The work shall consist of modifying an existing controller cabinet as follows:

- (a) Uninterruptible Power Supply (UPS). The addition of uninterruptible power supply (UPS) to an existing controller cabinet could require the relocation of the existing controller cabinet items to allow for the installation of the uninterruptible power supply (UPS) components inside the existing controller cabinet as outlined under Sections 862 and 1074.04 of the Standard Specifications.
- (b) Light Emitting Diode (LED) Signal Heads, Light Emitting Diode (LED) Optically Programmed Signal Heads and Light Emitting Diode (LED) Pedestrian Signal Heads. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(5)(b)(2) of the Standard Specifications and the recommended load requirements of the light emitting diode (LED) signal heads that are being installed at the existing traffic signal. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.
- (c) Light Emitting Diode (LED), Signal Head, Retrofit. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(2) of the Standard Specifications and the recommended load requirements of light emitting diode (LED) traffic signal modules, pedestrian signal modules, and pedestrian countdown signal modules as specified in the plans. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.

**Basis of Payment.**

Modifying an existing controller cabinet will be paid for at the contract unit price per each for MODIFY EXISTING CONTROLLER CABINET. This shall include all material and labor required to complete the work as described above, the removal and disposal of all items removed from the controller cabinet, as directed by the Engineer. The equipment for the Uninterruptible Power Supply (UPS) and labor to install it in the existing controller cabinet shall be included in the pay item Uninterruptible Power Supply. Modifying an existing controller will be paid for at the contract unit price per each for MODIFY EXISTING CONTROLLER, per Sections 895.04 and 895.08 of the Standard Specifications.

## **DIVISION 1000 MATERIALS**

### **PEDESTRIAN PUSH-BUTTON.**

Revise Article 1074.02(a) of the Standard Specifications to read:

The pedestrian push-button housing shall be constructed of aluminum alloy according to ASTM B 308 6061-T6 and powder coated yellow, unless otherwise noted on the plans. The housing shall be furnished with suitable mounting hardware.

Revise Article 1074-02(e) of the Standard Specifications to read:

Stations shall be designed to be mounted directly to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch (75mm) round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9 x 15 inch sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9 x 12 inch sign with arrow(s).

Add the following to Article 1074.02(a) of the Standard Specifications:

- (f) Location. Pedestrian push-buttons and stations shall be mounted directly to a post, mast arm pole or wood pole as shown on the plans and shall be fully accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details.

### **CONTROLLER CABINET AND PERIPHERAL EQUIPMENT.**

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Plug-in type EDCO SHA-1250 or Atlantic/Pacific approved equal.
- (b) (8) BIU – Containment screw required.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – One (1) 200 watt, thermostatically-controlled, Hoffman electric heater, or approved equivalent.

- (b) (12) Lighting – One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located beneath the controller support shelf. The LED Panels shall be controlled by a wall switch. Relume Traffic Control Box LED Panels and power supply or approved equivalent.
- (b) (13) The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch (38mm) deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. (23 kg) in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 24 inches (610mm) wide.
- (b) (14) Plan & Wiring Diagrams – 12” x 16” (3.05mm x 4.06mm) moisture sealed container attached to door.
- (b) (15) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- (b) (16) Field Wiring Labels – All field wiring shall be labeled.
- (b) (17) Field Wiring Termination – Approved channel lugs required.
- (b) (18) Power Panel – Provide a nonconductive shield.
- (b) (19) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (20) Police Door – Provide wiring and termination for plug in manual phase advance switch.
- (b) (21) Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or equivalent.

**RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET.**

Controller shall comply with Article 1073.01 as amended in these Traffic Signal Special Provisions.

Controller Cabinet and Peripheral Equipment shall comply with Article 1074.03 as amended in these Traffic Signal Special Provisions.

Add the following to Articles 1073.01 (c) (2) and 1074.03 (a) (5) (e) of the Standard Specifications:

Controllers and cabinets shall be new and NEMA TS2 Type 1 design.

A method of monitoring and/or providing redundancy to the railroad preemptor input to the controller shall be included as a component of the Railroad, Full Actuated Controller and Cabinet installation and be verified by the traffic signal equipment supplier prior to installation.

Railroad interconnected controllers and cabinets shall be assembled only by an approved traffic signal equipment supplier. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

**UNINTERRUPTIBLE POWER SUPPLY (UPS).**

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection's normal traffic signal operating connected load, plus 20 percent (20%). The total connected traffic signal load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 700 W/1000 VA active output capacity, with 90 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, cabinet heaters, service receptacles, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

#### UPS

End of paragraph 1074.04(b) (2)e

The door shall be equipped with a two position doorstop, one a 90° and one at 120°.

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

- j. The battery cabinet shall have provisions for an external generator connection.

Add the following to Article 1074.04(c) of the Standard Specifications:

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate (Hubbell model HBL4716C or approved equal). Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

**Battery System.**

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic leadcalcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

Add the following to Article 1074.04(d) of the Standard Specifications:

- (9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of six hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

Add the following to the Article 1074.04 of the Standard Specifications:

- (e) Warranty. The warranty for an uninterruptible power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years from the date the traffic signal and UPS are placed into service.

**ELECTRIC CABLE.**

Delete “or stranded, and No. 12 or” from the last sentence of Article 1076.04 (a) of the Standard Specifications.

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

**TRAFFIC SIGNAL POST.**

Add the following to Article 1077.01 (d) of the Standard Specifications:

All posts and bases shall be steel and hot dipped galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with TRAFFIC SIGNAL PAINTING in Division 800 of these specifications.

**PEDESTRIAN PUSH-BUTTON POST.**

Add the following to Article 1077.02(b) of the Standard Specifications:

All posts and bases shall be steel and hot-dipped galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with Traffic Signal Painting in Division 800 of these specifications.

**MAST ARM ASSEMBLY AND POLE.**

Add the following to Article 1077.03 (a) of the Standard Specifications:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer. All poles shall be galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with with TRAFFIC SIGNAL PAINTING in Division 800 of these specifications.

The shroud shall be of sufficient strength to deter pedestrian and vehicular damage. The shroud shall be constructed and designed to allow air to circulate throughout the mast arm but not allow infestation of insects or other animals, and such that it is not hazardous to probing fingers and feet. All mounting hardware shall be stainless steel.

**LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL HEAD.**

Add the following to Section 1078 of the Standard Specifications:

**General.**

All signal and pedestrian heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signal and/or pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

Pedestrian signal heads shall be furnished with the international symbolic "Walking Person" and "Upraised Palm" displays. Egg crate sun shields are not permitted.

Signal heads shall be positioned according to the "District One Standard Traffic Signal Design Details."



LED signal heads (All Face and Section Quantities), (All Mounting Types) shall conform fully to the requirements of Articles 1078.01 and 1078.02 of the Standard Specifications amended herein.

1. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the State.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
  - a. 12 inch (300 mm) circular, multi-section
  - b. 12 inch (300 mm) arrow, multi-section
  - c. 12 inch (300 mm) pedestrian, 2 sections
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
4. Material used for the lens and signal module construction shall conform to ASTM specifications for the materials.
5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.
6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.

7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

1. The minimum initial luminous intensity values for the modules shall conform to the values in Table 1 of the VTCSH (2005) for circular signal indications, and as stated in Table 3 of these specifications for arrow and pedestrian indications at 25 °C.
2. The modules shall meet or exceed the illumination values stated in Articles 1078.01 and 1078.02 the Standard Specifications for circular signal indications, and Table 3 of these specifications for arrow and pedestrian indications, throughout the useful life based on normal use in a traffic signal operation over the operating temperature range.
3. The measured chromaticity coordinates of the modules shall conform to the chromaticity requirements of Section 4.2 of the VTCSH (2005) or applicable successor ITE specifications.
4. The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.
3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
6. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.
2. Retrofit modules can be manufactured under this specification for the following faces:
  - a. 12 inch (300 mm) circular, multi-section
  - b. 12 inch (300 mm) arrow, multi-section
  - c. 12 inch (300 mm) pedestrian, 2 sections
3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.
7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

(e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.
2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

(f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.

1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

- (g) The following specification requirements apply to the 12 inch (300 mm) Pedestrian module only. All general specifications apply unless specifically superseded in this section.
1. Each pedestrian signal LED module shall provide the ability to actuate the solid upraised hand and the solid walking person on one 12 inch (300mm) section.
  2. Two (2) pedestrian sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man.
  3. "Egg Crate" type sun shields are not permitted. All figures must be a minimum of 9 inches (225mm) in height and easily identified from a distance of 120-feet (36.6m).

**LIGHT EMITTING DIODE (LED) PEDESTRIAN COUNTDOWN SIGNAL HEAD.**

Add the following to Article 1078.02 of the Standard Specifications:

General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.
3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.
4. The module shall allow for consecutive cycles without displaying the steady Upraised Hand.
5. The module shall recognize preemption events and temporarily modify the crossing cycle accordingly.
6. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
7. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
8. The next cycle, following the preemption event, shall use the correct, initially programmed values.

9. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
10. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
11. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.
12. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.
13. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
14. In the event of a power outage, light output from the LED modules shall cease instantaneously.
15. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.
16. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Electrical.

1. Maximum power consumption for LED modules is 29 watts.
2. The measured chromaticity shall remain unchanged over the input line voltage range listed of 80 VAC to 135 VAC.

**TRAFFIC SIGNAL BACKPLATE.**

Delete 1<sup>st</sup> sentence of Article 1078.03 of the Standard Specifications and add "All backplates shall be aluminum and louvered".

Add the following to the third paragraph of Article 1078.03 of the Standard Specifications. The reflective backplate shall not contain louvers.

Delete second sentence of the fourth paragraph of Article 1078.03 of the Standard Specifications.

Add the following to the fourth paragraph of Article 1078.03 of the Standard Specifications:

When retro reflective sheeting is specified, it shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the manufacturer's recommendations. The retro reflective sheeting shall be installed under a controlled environment at the manufacturer/supplier before shipment to the contractor. The aluminum backplate shall be prepared and cleaned, following recommendations of the retro reflective sheeting manufacturer.

### **INDUCTIVE LOOP DETECTOR.**

Add the following to Article 1079.01 of the Standard Specifications:

Contracts requiring new cabinets shall provide for rack mounted detector amplifier cards. Detector amplifiers shall provide LCD displays with loop frequency, inductance, and change of inductance readings.

### **ILLUMINATED SIGN, LIGHT EMITTING DIODE.**

Delete last sentence of Article 1084.01(a) and add "Mounting hardware shall be black polycarbonate or galvanized steel and similar to mounting Signal Head hardware and bracket specified herein and shall provide tool free access to the interior."

Revise the second paragraph of Article 1084.01(a) to read:

The exterior surface of the housing shall be acid-etched and shop painted with one coat of zinc-chromate primer and two coats of exterior enamel. The housing shall be the same color (yellow or black) to match the existing or proposed signal heads. The painting shall be according to Section 851.

Add the following to Article 1084.01 (b) of the Standard Specifications:

The message shall be formed by rows of LEDs. The sign face shall be 24 inches (600 mm) by 24 inches (600 mm).

Add the following to Article 1084.01 of the Standard Specifications:

- (e) The light emitting diode (LED) blank out signs shall be manufactured by National Sign & Signal Company, or an approved equal and consist of a weatherproof housing and door, LEDs and transformers.

## **ILLUMINATED STREET NAME SIGN**

The illuminate street name sign shall be as follows.

(a) Description.

The LEDs shall be white in color and utilize InGaN or UV thermally efficient technology. The LED Light Engines shall be designed to fit inside a standard fluorescent illuminated street sign housing in lieu of fluorescent lamps and ballasts or a slim line type housing. The LED internally-illuminated street name sign shall display the designated street name clearly and legibly in the daylight hours without being energized and at night when energized. The sign assembly shall consist of a four-, six-, or eight-foot aluminum housing. White translucent 3M DG<sup>3</sup> reflective sheeting sign faces with the street name applied in 3M/Scotchlite Series 1177 or current 3M equivalent transparent green shall be installed in hinged doors on the side of the sign for easy access to perform general cleaning and maintenance operations. Illumination shall occur with LED Light Engine as specified.

(b) Environmental Requirements.

The LED lamp shall be rated for use in the ambient operating temperature range of -40 to +50°C (-40 to +122°F) for storage in the ambient temperature range of -40 to +75°C (-40 to +167°F).

(c) General Construction.

1. The LED Light Engine shall be a single, self-contained device, for installation in an existing street sign housing. The power supply must be designed to fit and mounted on the inside wall at one end of the street sign housing. The LED Light Engine shall be mounted within the inner top portion of the housing and no components of the light source shall sit between the sign faces.
2. The assembly and manufacturing processes of the LED Light Engine shall be designed to ensure that all LED and electronic components are adequately supported to withstand mechanical shocks and vibrations in compliance with the specifications of the ANSI, C136.31-2001 standards.

(d) Mechanical Construction.

1. The sign shall be constructed using a weatherproof, aluminum housing consisting of an extruded aluminum top with a minimum thickness of .140" x 10 3/4" deep (including the drip edge). The extruded aluminum bottom is .094" thick x 5 7/8" deep. The ends of the housing shall be cast aluminum with a minimum thickness of .250". A six-foot sign shall be 72 5/8" long and 22 5/16" tall and not weigh more than 77 pounds. An eight-foot sign shall be 96 5/8" long and 22 5/16" tall and not weigh more than 92 pounds. All corners are continuous TIG (Tungsten Inert Gas) welded to provide a weatherproof seal around the entire housing.

2. The door shall be constructed of extruded aluminum. Two corners are continuous TIG welded with the other two screwed together to make one side of the door removable for installation of the sign face. The door is fastened to the housing on the bottom by a full length, .040" x 1 1/8" open stainless steel hinge. The door shall be held secure onto a 1" wide by 5/32" thick neoprene gasket by three (six total for two-way sign) quarter-turn fasteners to form a watertight seal between the door and the housing.
  3. The sign face shall be constructed of .125" white translucent polycarbonate. The letters shall be 8" upper case and 6" lower case. The sign face legend background shall consist of 3M/Scotchlite Series 4090T or current equivalent 3M translucent DG<sup>3</sup> white VIP (Visual Impact Performance) diamond grade sheeting (ATSM Type 9) and 3M/Scotchlite Series 1177 or current 3M equivalent transparent green acrylic EC (electronic cut-able) film applied to the front of the sign face. The legend shall be framed by a white polycarbonate border. A logo symbol and/or name of the community may be included with approval of the Engineer.
  4. All surfaces of the sign shall be etched and primed in accordance to industry standards before receiving appropriate color coats of industrial enamel.
  5. All fasteners and hardware shall be corrosion resistant stainless steel. No tools are required for routine maintenance.
  6. All wiring shall be secured by insulated wire compression nuts.
  7. A wire entrance junction box shall be supplied with the sign assembly. The box may be supplied mounted to the exterior or interior of the sign and provide a weather tight seal.
  8. A photoelectric switch shall be mounted in the control cabinet to control lighting functions for day and night display. Each sign shall be individually fused.
  9. Brackets and Mounting: LED internally-illuminated street name signs will be factory drilled to accommodate mast arm two-point support assembly mounting brackets.
- (e) Electrical.
1. Photocell shall be rated 105-305V, turn on at 1.5 fcs. with a 3-5 second delay. A manufacturer's warranty of six (6) years shall be provided. Power consumption shall be no greater than 1 watt at 120V.
  2. The LED Light Engine shall operate from a 60 +/- 3 cycle AC line power over a voltage range of 80 to 135 Vac rms. Fluctuations in line voltage over the range of 80 to 135 Vac shall not affect luminous intensity by more than +/- 10%.
  3. Total harmonic distortion induced into the AC power line by the LED Light Engine, operated at a nominal operating voltage, and at a temperature of +25°C (+77°F), shall not exceed 20%.



4. The LED Light Engine shall be cycled ON and OFF with a photocell as shown on the detail sheet and shall not exceed the following maximum power values:

4-Foot Sign	60 W
6-Foot Sign	90 W
8-Foot Sign	120 W

The signs shall not be energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptable power source (UPS). The signs shall be connected to the generator or UPS bypass circuitry.

(f) Photometric Requirements.

1. The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions defined in Environmental Requirements and Wattage Sections shall be of a minimum value of 100 cd/m<sup>2</sup>.
2. The manufacturer shall make available independent laboratory test results to verify compliance to Voltage Range and Luminous Intensity Distribution Sections.
3. Twelve (12) 1.25 watt LED units shall be mounted on 1-inch x 22-inch metal cone printed circuit boards (MCPCB). The viewing angle shall be 120 degrees. LED shall have a color temperature of 5200k nominal, CRI of 80 with a life expectancy of 75,000 hrs.

(g) Quality Assurance.

The LED Light Engine shall be manufactured in accordance with a vendor quality assurance (QA) program. The production QA shall include statistically controlled routine tests to ensure minimum performance levels of the LED Light Engine build to meet this specification. QA process and test result documentations shall be kept on file for a minimum period of seven (7) years. The LED Light Engine that does not satisfy the production QA testing performance requirements shall not be labeled, advertised, or sold as conforming to these specifications. Each LED Light Engine shall be identified by a manufacturer's serial number for warranty purposes. LED Light Engines shall be replaced or repaired if they fail to function as intended due to workmanship or material defects within the first sixty (60) months from the date of acceptance. LED Light Engines that exhibit luminous intensities less than the minimum value specified in Photometric Section within the first thirty-six (36) months from the date of acceptance shall be replaced or repaired.

## **TRAFFIC SIGNAL SPECIAL PROVISIONS**

### **EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C**

This work shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have three (3) stranded conductors colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the manufacturer of the Emergency Vehicle Priority System Equipment.

Basis of Payment. This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operation.

### **CALCIUM ALUMINATE CEMENT (BMPR)**

Effective: July 1, 2013

Revise Article 1001.01(e) to read:

“(e) Calcium Aluminate Cement. Calcium aluminate cement shall be used according to Article 1020.04 or when approved by the Engineer. The cement shall meet the standard physical requirements for Type I cement according to AASHTO M 85, except the time of setting shall not apply. The chemical requirements shall be determined according to AASHTO T 105 and shall be as follows: minimum 37 percent aluminum oxide ( $Al_2O_3$ ), maximum 42 percent calcium oxide (CaO), maximum 1 percent magnesium oxide (MgO), maximum 0.4 percent sulfur trioxide ( $SO_3$ ), maximum 1.75 percent loss on ignition, and maximum 7 percent insoluble residue.”

IEPA



# Illinois Environmental Protection Agency

Page 1 of 2

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

**Uncontaminated Soil Certification**  
**by Licensed Professional Engineer or Licensed Professional Geologist**  
**for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation**  
**LPC-663**

**Revised in accordance with 35 Ill. Adm. Code 1100, as**  
**amended by PCB R2012-009 (eff. Aug. 27, 2012)**

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

## I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: FAI 57 (I57) at Stuenkel Road Office Phone Number, if available: \_\_\_\_\_

Physical Site Location (address, including number and street):

500 Central Avenue

City: University Park State: IL Zip Code: 60466

County: Will Township: Monee

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.45594 Longitude: -87.75602  
(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

GPS  Map Interpolation  Photo Interpolation  Survey  Other

IEPA Site Number(s), if assigned: BOL: 1974775016 BOW: \_\_\_\_\_ BOA: \_\_\_\_\_

## II. Owner/Operator Information for Source Site

Site Owner

Site Operator

Name: Illinois Department of Transportation

Name: Illinois Department of Transportation

Street Address: 201 West Center Street

Street Address: 201 West Center Street

PO Box: \_\_\_\_\_

PO Box: \_\_\_\_\_

City: Schaumburg State: IL

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4101

Zip Code: 60196-1096 Phone: 847-705-4101

Contact: Sam Mead

Contact: Sam Mead

Email, if available: Sam.Mead@illinois.gov

Email, if available: Sam.Mead@illinois.gov

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

IL 532-2922  
LPC 663 Rev. 8/2012

Project Name: FAI 57 (I57) at Stuenkel Road  
Latitude: 41.45594 Longitude: -87.75602

Uncontaminated Site Certification

**III. Basis for Certification and Attachments**

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

LOCATIONS 1577AV-16-B12, -B13, AND -B14 WERE SAMPLED ADJACENT TO ISGS SITE 1577AV-16. SEE FIGURE 7 AND TABLE 5I OF REVISED PRELIMINAREY SITE INVESTIGATION.

- b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

TEST AMERICA ANALYTICAL REPORT - JOB ID: 500-4308-1.

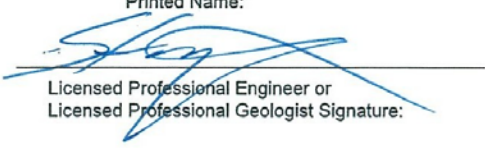
**IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist**

I, Steven Gobleman, P.E., L.P.G. (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

*Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))*

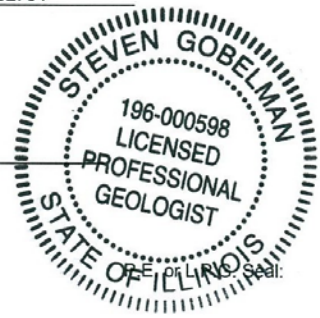
Company Name: IDOT Bureau of Design and Environment  
Street Address: 2300 South Dirksen Parkway  
City: Springfield State: IL Zip Code: 62764  
Phone: 217.785.4246  
Steven Gobleman

Printed Name:

  
Licensed Professional Engineer or  
Licensed Professional Geologist Signature:

7/12/13/

Date:



THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

<b>Volatile Organic Compounds (mg/kg)</b>
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
1,2-Dichloropropane
1,3-Dichloropropene
2-Butanone (MEK)
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Dibromochloromethane
Ethylbenzene
Methylene Chloride
Methyl-tert-butyl-ether (MTBE)
Styrene
Tetrachloroethene
Toluene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
Trichloroethene
Vinyl Chloride
Xylenes, total
m-xylene
o-xylene
p-xylene
<b>Semivolatile Organic Compounds (mg/kg)</b>
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
3,3'-Dichlorobenzidine
3-Nitroaniline
4,6-Dinitro-2-methylphenol
4-Bromophenyl phenyl ether
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenyl phenyl ether
4-Methylphenol
4-Nitroaniline
4-Nitrophenol
Acenaphthene

THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl)ether
bis(2-chloroisopropyl)ether
Bis(2-ethylhexyl)phthalate
Butyl benzyl phthalate
Carbazole
Chrysene
Dibenzo (a,h) anthracene
Dibenzofuran
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno (1,2,3-cd) pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitrosodi-n-propylamine
N-Nitrosodiphenylamine
Pentachlorophenol
Phenanthrene
Phenol
Pyrene
<b>Metals, Total (mg/kg)</b>
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Copper
Lead
Manganese
Mercury
Nickel
Selenium
Silver
Thallium
Zinc
<b>TCLP/SPLP Metals (mg/L)</b>
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Copper
Lead
Manganese
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

The following table summarizes the results of laboratory analysis of site soil samples. In reading the table,

- Only parameters reported at concentrations above the most stringent MAC are listed.
- If all samples at a site were below the most stringent MAC, the notation “**No Contaminants of Concern Noted**” is used.

The laboratory report for site soils follows this summary table.

*Uncontaminated Soil*  
*Monee Township and University Park, Will County, Illinois*

**ISGS Site 1577AV-16**  
**Avatar Corp. University Plant**

Sample ID	1577AV-16-B12	1577AV-16-B13	1577AV-16-B14
Sample Depth (ft)	0-5	0-5	0-5
Sample Date	12/8/2011	12/8/2011	12/8/2011
% Solids	82	82	83
Sample pH	7.29	7.27	7.38
Matrix	Soil	Soil	Soil
<b>No Contaminants of Concern Noted</b>			



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-43084-1  
TestAmerica Sample Delivery Group: 500-43084-1  
Client Project/Site: IDOT - I-57 - WO 012  
Revision: 1

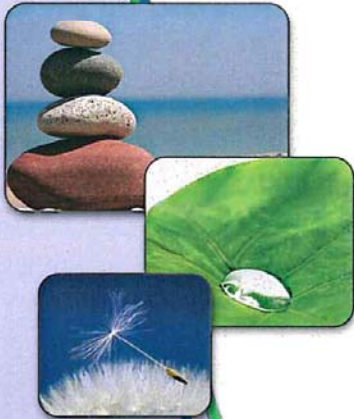
For:  
Andrews Engineering Inc.  
3300 Ginger Creek Drive  
Springfield, Illinois 62711

Attn: Mike Nelson



Authorized for release by:  
7/9/2013 3:37:22 PM

Richard Wright, Project Manager II  
richard.wright@testamericainc.com



### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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**Sample Summary**

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-43084-1	1577AV-23-B02	Solid	12/08/11 08:45	12/09/11 07:00
500-43084-2	1577AV-23-B03	Solid	12/08/11 09:00	12/09/11 07:00
500-43084-3	1577AV-26-B02	Solid	12/08/11 08:55	12/09/11 07:00
500-43084-4	1577AV-23-B05	Solid	12/08/11 09:10	12/09/11 07:00
500-43084-5	1577AV-23-B06	Solid	12/08/11 09:20	12/09/11 07:00
500-43084-6	1577AV-23-B08	Solid	12/08/11 09:45	12/09/11 07:00
500-43084-7	1577AV-23-B07	Solid	12/08/11 10:15	12/09/11 07:00
500-43084-8	1577AV-23-B04	Solid	12/08/11 10:40	12/09/11 07:00
500-43084-9	1577AV-23-B04 WC	Solid	12/08/11 10:45	12/09/11 07:00
500-43084-10	1577AV-11-B02-1	Solid	12/08/11 11:45	12/09/11 07:00
500-43084-11	1577AV-11-B02-2	Solid	12/08/11 12:00	12/09/11 07:00
500-43084-12	1577AV-11-B02-1 DUP	Solid	12/08/11 12:15	12/09/11 07:00
500-43084-13	1577AV-11-B03-1	Solid	12/08/11 12:30	12/09/11 07:00
500-43084-14	1577AV-11-B03-2	Solid	12/08/11 12:45	12/09/11 07:00
500-43084-15	1577AV-11-B04-1	Solid	12/08/11 13:00	12/09/11 07:00
500-43084-16	1577AV-11-B04-2	Solid	12/08/11 13:15	12/09/11 07:00
500-43084-17	1577AV-11-B05-1	Solid	12/08/11 14:15	12/09/11 07:00
500-43084-18	1577AV-11-B05-2	Solid	12/08/11 14:25	12/09/11 07:00
500-43084-19	1577AV-11-B01-1	Solid	12/08/11 14:35	12/09/11 07:00
500-43084-20	1577AV-11-B01-2	Solid	12/08/11 14:45	12/09/11 07:00
500-43084-21	1577AV-16-B12	Solid	12/08/11 15:15	12/09/11 07:00
500-43084-22	1577AV-16-B13	Solid	12/08/11 15:25	12/09/11 07:00
500-43084-23	1577AV-16-B14	Solid	12/08/11 15:30	12/09/11 07:00



Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B12

Lab Sample ID: 500-43084-21

Date Collected: 12/08/11 15:15

Matrix: Solid

Date Received: 12/09/11 07:00

Percent Solids: 82.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0050		0.0050	0.0024	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Benzene	<0.0050		0.0050	0.00054	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Bromodichloromethane	<0.0050		0.0050	0.00076	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Bromoform	<0.0050		0.0050	0.00080	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Bromomethane	<0.0050		0.0050	0.0011	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
2-Butanone (MEK)	<0.0050		0.0050	0.0011	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Carbon disulfide	<0.0050		0.0050	0.00071	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Carbon tetrachloride	<0.0050		0.0050	0.0011	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Chlorobenzene	<0.0050		0.0050	0.00079	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Chloroethane	<0.0050		0.0050	0.0010	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Chloroform	<0.0050		0.0050	0.00091	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Chloromethane	<0.0050		0.0050	0.00081	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
cis-1,2-Dichloroethene	<0.0050		0.0050	0.00073	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
cis-1,3-Dichloropropene	<0.0050		0.0050	0.00057	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Dibromochloromethane	<0.0050		0.0050	0.00069	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,1-Dichloroethane	<0.0050		0.0050	0.00079	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,2-Dichloroethane	<0.0050		0.0050	0.00051	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,1-Dichloroethene	<0.0050		0.0050	0.00079	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,2-Dichloropropane	<0.0050		0.0050	0.0011	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,3-Dichloropropene, Total	<0.0050		0.0050	0.00057	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Ethylbenzene	<0.0050		0.0050	0.00075	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
2-Hexanone	<0.0050		0.0050	0.00071	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Methylene Chloride	<0.0050		0.0050	0.0014	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050	0.00084	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Methyl tert-butyl ether	<0.0050		0.0050	0.00075	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Styrene	<0.0050		0.0050	0.00063	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,1,2,2-Tetrachloroethane	<0.0050		0.0050	0.00068	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Tetrachloroethene	<0.0050		0.0050	0.00094	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Toluene	<0.0050		0.0050	0.00096	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
trans-1,2-Dichloroethene	<0.0050		0.0050	0.00071	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
trans-1,3-Dichloropropene	<0.0050		0.0050	0.0011	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,1,1-Trichloroethane	<0.0050		0.0050	0.00095	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
1,1,2-Trichloroethane	<0.0050		0.0050	0.00067	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Trichloroethene	<0.0050		0.0050	0.00080	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Vinyl chloride	<0.0050		0.0050	0.00070	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1
Xylenes, Total	<0.0099		0.0099	0.00070	mg/Kg	☐	12/08/11 15:15	12/14/11 05:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		67 - 120	12/08/11 15:15	12/14/11 05:21	1
Dibromofluoromethane	91		69 - 120	12/08/11 15:15	12/14/11 05:21	1
1,2-Dichloroethane-d4 (Surr)	90		69 - 120	12/08/11 15:15	12/14/11 05:21	1
Toluene-d8 (Surr)	92		69 - 122	12/08/11 15:15	12/14/11 05:21	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.039		0.039	0.012	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Acenaphthylene	<0.036		0.036	0.0091	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Anthracene	<0.039		0.039	0.0093	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Benzo[a]anthracene	<0.039		0.039	0.0083	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Benzo[a]pyrene	<0.039		0.039	0.0072	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B12  
 Date Collected: 12/08/11 15:15  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-21  
 Matrix: Solid  
 Percent Solids: 82.3

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	<0.039		0.039	0.0077	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Benzo[g,h,i]perylene	<0.039		0.039	0.013	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Benzo[k]fluoranthene	<0.039		0.039	0.0095	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.044	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.059	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.053	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.044	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Butyl benzyl phthalate	<0.20		0.20	0.050	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Carbazole	<0.20		0.20	0.056	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
4-Chloroaniline	<0.80		0.80	0.12	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
4-Chloro-3-methylphenol	<0.39		0.39	0.19	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2-Chloronaphthalene	<0.20		0.20	0.045	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2-Chlorophenol	<0.20		0.20	0.057	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.062	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Chrysene	<0.039		0.039	0.0090	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Dibenz(a,h)anthracene	<0.039		0.039	0.011	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Dibenzofuran	<0.20		0.20	0.048	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
1,2-Dichlorobenzene	<0.20		0.20	0.043	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
1,3-Dichlorobenzene	<0.20		0.20	0.042	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
1,4-Dichlorobenzene	<0.20		0.20	0.042	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.033	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,4-Dichlorophenol	<0.39		0.39	0.12	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Diethyl phthalate	<0.20		0.20	0.066	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,4-Dimethylphenol	<0.39		0.39	0.12	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Dimethyl phthalate	<0.20		0.20	0.050	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Di-n-butyl phthalate	<0.20		0.20	0.050	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
4,6-Dinitro-2-methylphenol	<0.39		0.39	0.096	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,4-Dinitrophenol	<0.80		0.80	0.20	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,4-Dinitrotoluene	<0.20		0.20	0.061	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,6-Dinitrotoluene	<0.20		0.20	0.047	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Di-n-octyl phthalate	<0.20		0.20	0.080	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Fluoranthene	<0.039		0.039	0.016	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Fluorene	<0.039		0.039	0.0090	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Hexachlorobenzene	<0.080		0.080	0.0078	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Hexachlorobutadiene	<0.20		0.20	0.052	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Hexachlorocyclopentadiene	<0.80		0.80	0.18	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Hexachloroethane	<0.20		0.20	0.042	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Indeno[1,2,3-cd]pyrene	<0.039		0.039	0.013	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Isophorone	<0.20		0.20	0.044	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2-Methylnaphthalene	<0.20		0.20	0.051	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2-Methylphenol	<0.20		0.20	0.053	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
3 & 4 Methylphenol	<0.20		0.20	0.075	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Naphthalene	<0.039		0.039	0.0076	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2-Nitroaniline	<0.20		0.20	0.071	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
3-Nitroaniline	<0.39		0.39	0.077	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
4-Nitroaniline	<0.39		0.39	0.081	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Nitrobenzene	<0.039		0.039	0.012	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2-Nitrophenol	<0.39		0.39	0.062	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
4-Nitrophenol	<0.80		0.80	0.21	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B12  
 Date Collected: 12/08/11 15:15  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-21  
 Matrix: Solid  
 Percent Solids: 82.3

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	<0.20		0.20	0.050	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
N-Nitrosodiphenylamine	<0.20		0.20	0.054	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.044	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Pentachlorophenol	<0.80		0.80	0.20	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Phenanthrene	<0.039		0.039	0.017	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Phenol	<0.20		0.20	0.063	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
Pyrene	<0.039		0.039	0.014	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.045	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,4,5-Trichlorophenol	<0.39		0.39	0.11	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1
2,4,6-Trichlorophenol	<0.39		0.39	0.050	mg/Kg	☐	12/12/11 17:50	12/20/11 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		27 - 113	12/12/11 17:50	12/20/11 17:17	1
2-Fluorophenol	52		30 - 110	12/12/11 17:50	12/20/11 17:17	1
Nitrobenzene-d5	53		22 - 110	12/12/11 17:50	12/20/11 17:17	1
Phenol-d5	56		26 - 112	12/12/11 17:50	12/20/11 17:17	1
Terphenyl-d14	78		33 - 129	12/12/11 17:50	12/20/11 17:17	1
2,4,6-Tribromophenol	57		30 - 137	12/12/11 17:50	12/20/11 17:17	1

Method: 6010B - PPL+Ba Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		12/15/11 17:00	12/16/11 23:35	1
Barium	0.18	J	0.50	0.010	mg/L		12/15/11 17:00	12/16/11 23:35	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		12/15/11 17:00	12/16/11 23:35	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		12/15/11 17:00	12/16/11 23:35	1
Chromium	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:35	1
Copper	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:35	1
Lead	<0.0075		0.0075	0.0050	mg/L		12/15/11 17:00	12/16/11 23:35	1
Nickel	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:35	1
Selenium	<0.050		0.050	0.010	mg/L		12/15/11 17:00	12/16/11 23:35	1
Silver	<0.025		0.025	0.0050	mg/L		12/15/11 17:00	12/16/11 23:35	1
Zinc	<0.10		0.10	0.020	mg/L		12/15/11 17:00	12/16/11 23:35	1
Manganese	0.066		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:35	1

Method: 6010B - Total Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.14	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Arsenic	5.7		0.59	0.083	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Barium	43	B	0.59	0.033	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Beryllium	0.52		0.24	0.012	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Cadmium	0.12		0.12	0.016	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Chromium	12		0.59	0.050	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Copper	14		0.59	0.083	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Lead	13		0.30	0.14	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Nickel	13	B	0.59	0.039	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Selenium	0.47	J	0.59	0.17	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Silver	<0.30		0.30	0.037	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Thallium	0.26	J	0.59	0.20	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Zinc	29	B	1.2	0.095	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1
Manganese	310		0.59	0.025	mg/Kg	☐	12/14/11 15:00	12/17/11 08:40	1

TestAmerica Chicago

**Client Sample Results**

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B12  
 Date Collected: 12/08/11 15:15  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-21  
 Matrix: Solid

Method: 6020 - Metals (ICP/MS) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Antimony	<0.0060		0.0060	0.0030	mg/L	-	12/15/11 17:00	12/19/11 13:19	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	12/15/11 17:00	12/19/11 13:19	1

Method: 7470A - TCLP Mercury - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	0.00090	J * B	0.0020	0.00020	mg/L	-	12/16/11 15:40	12/18/11 13:18	1

Method: 7471A - Mercury									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	0.029		0.019	0.0057	mg/Kg	□	12/17/11 12:35	12/17/11 15:30	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
pH	7.29		0.200	0.200	SU	-		12/20/11 11:15	1



Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B13  
 Date Collected: 12/08/11 15:25  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-22  
 Matrix: Solid  
 Percent Solids: 82.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0051		0.0051	0.0025	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Benzene	<0.0051		0.0051	0.00055	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Bromodichloromethane	<0.0051		0.0051	0.00077	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Bromoform	<0.0051		0.0051	0.00083	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Bromomethane	<0.0051		0.0051	0.0011	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
2-Butanone (MEK)	<0.0051		0.0051	0.0011	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Carbon disulfide	<0.0051		0.0051	0.00072	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Carbon tetrachloride	<0.0051		0.0051	0.0011	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Chlorobenzene	<0.0051		0.0051	0.00081	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Chloroethane	<0.0051		0.0051	0.0011	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Chloroform	<0.0051		0.0051	0.00094	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Chloromethane	<0.0051		0.0051	0.00084	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
cis-1,2-Dichloroethene	<0.0051		0.0051	0.00074	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
cis-1,3-Dichloropropene	<0.0051		0.0051	0.00058	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Dibromochloromethane	<0.0051		0.0051	0.00070	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,1-Dichloroethane	<0.0051		0.0051	0.00081	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,2-Dichloroethane	<0.0051		0.0051	0.00052	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,1-Dichloroethene	<0.0051		0.0051	0.00081	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,2-Dichloropropane	<0.0051		0.0051	0.0012	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,3-Dichloropropene, Total	<0.0051		0.0051	0.00058	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Ethylbenzene	<0.0051		0.0051	0.00076	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
2-Hexanone	<0.0051		0.0051	0.00072	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Methylene Chloride	<0.0051		0.0051	0.0014	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
4-Methyl-2-pentanone (MIBK)	<0.0051		0.0051	0.00087	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Methyl tert-butyl ether	<0.0051		0.0051	0.00076	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Styrene	<0.0051		0.0051	0.00064	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,1,2,2-Tetrachloroethane	<0.0051		0.0051	0.00069	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Tetrachloroethene	<0.0051		0.0051	0.00097	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Toluene	<0.0051		0.0051	0.00099	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
trans-1,2-Dichloroethene	<0.0051		0.0051	0.00072	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
trans-1,3-Dichloropropene	<0.0051		0.0051	0.0012	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,1,1-Trichloroethane	<0.0051		0.0051	0.00098	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
1,1,2-Trichloroethane	<0.0051		0.0051	0.00068	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Trichloroethene	<0.0051		0.0051	0.00083	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Vinyl chloride	<0.0051		0.0051	0.00071	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1
Xylenes, Total	<0.010		0.010	0.00071	mg/Kg	☐	12/08/11 15:25	12/14/11 05:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		67 - 120	12/08/11 15:25	12/14/11 05:45	1
Dibromofluoromethane	98		69 - 120	12/08/11 15:25	12/14/11 05:45	1
1,2-Dichloroethane-d4 (Surr)	97		69 - 120	12/08/11 15:25	12/14/11 05:45	1
Toluene-d8 (Surr)	94		69 - 122	12/08/11 15:25	12/14/11 05:45	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.039		0.039	0.012	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Acenaphthylene	<0.036		0.036	0.0091	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Anthracene	<0.039		0.039	0.0093	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Benzo[a]anthracene	<0.039		0.039	0.0063	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Benzo[a]pyrene	<0.039		0.039	0.0072	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B13  
 Date Collected: 12/08/11 15:25  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-22  
 Matrix: Solid  
 Percent Solids: 82.1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	<0.039		0.039	0.0077	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Benzo[g,h,i]perylene	<0.039		0.039	0.013	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Benzo[k]fluoranthene	<0.039		0.039	0.0094	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.058	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.052	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Butyl benzyl phthalate	<0.20		0.20	0.049	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Carbazole	<0.20		0.20	0.055	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
4-Chloroaniline	<0.80		0.80	0.12	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
4-Chloro-3-methylphenol	<0.39		0.39	0.19	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2-Chlorophenol	<0.20		0.20	0.056	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.052	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Chrysene	<0.039		0.039	0.0089	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Dibenz[a,h]anthracene	<0.039		0.039	0.011	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
1,2-Dichlorobenzene	<0.20		0.20	0.043	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
1,3-Dichlorobenzene	<0.20		0.20	0.041	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
1,4-Dichlorobenzene	<0.20		0.20	0.041	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.033	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,4-Dichlorophenol	<0.39		0.39	0.12	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Diethyl phthalate	<0.20		0.20	0.066	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,4-Dimethylphenol	<0.39		0.39	0.12	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Dimethyl phthalate	<0.20		0.20	0.049	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Di-n-butyl phthalate	<0.20		0.20	0.050	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
4,6-Dinitro-2-methylphenol	<0.39		0.39	0.096	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,4-Dinitrophenol	<0.80		0.80	0.20	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,4-Dinitrotoluene	<0.20		0.20	0.060	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,6-Dinitrotoluene	<0.20		0.20	0.047	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Di-n-octyl phthalate	<0.20		0.20	0.080	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Fluoranthene	<0.039		0.039	0.016	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Fluorene	<0.039		0.039	0.0090	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Hexachlorobenzene	<0.080		0.080	0.0078	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Hexachlorobutadiene	<0.20		0.20	0.052	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Hexachlorocyclopentadiene	<0.80		0.80	0.18	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Hexachloroethane	<0.20		0.20	0.042	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Indeno[1,2,3-cd]pyrene	<0.039		0.039	0.013	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Isophorone	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2-Methylnaphthalene	<0.20		0.20	0.051	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2-Methylphenol	<0.20		0.20	0.052	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
3 & 4 Methylphenol	<0.20		0.20	0.075	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Naphthalene	<0.039		0.039	0.0076	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2-Nitroaniline	<0.20		0.20	0.071	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
3-Nitroaniline	<0.39		0.39	0.076	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
4-Nitroaniline	<0.39		0.39	0.081	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Nitrobenzene	<0.039		0.039	0.012	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2-Nitrophenol	<0.39		0.39	0.062	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
4-Nitrophenol	<0.80		0.80	0.21	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1

TestAmerica Chicago



Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B13  
 Date Collected: 12/08/11 15:25  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-22  
 Matrix: Solid  
 Percent Solids: 82.1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	<0.20		0.20	0.050	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
N-Nitrosodiphenylamine	<0.20		0.20	0.053	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Pentachlorophenol	<0.80		0.80	0.20	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Phenanthrene	<0.039		0.039	0.016	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Phenol	<0.20		0.20	0.062	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
Pyrene	<0.039		0.039	0.014	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.045	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,4,5-Trichlorophenol	<0.39		0.39	0.11	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1
2,4,6-Trichlorophenol	<0.39		0.39	0.049	mg/Kg	☐	12/13/11 07:22	12/15/11 22:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	96		27 - 113	12/13/11 07:22	12/15/11 22:18	1
2-Fluorophenol	86		30 - 110	12/13/11 07:22	12/15/11 22:18	1
Nitrobenzene-d5	90		22 - 110	12/13/11 07:22	12/15/11 22:18	1
Phenol-d5	97		26 - 112	12/13/11 07:22	12/15/11 22:18	1
Terphenyl-d14	100		33 - 129	12/13/11 07:22	12/15/11 22:18	1
2,4,6-Tribromophenol	107		30 - 137	12/13/11 07:22	12/15/11 22:18	1

Method: 6010B - PPL+Ba Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		12/15/11 17:00	12/16/11 23:42	1
Barium	0.28	J	0.50	0.010	mg/L		12/15/11 17:00	12/16/11 23:42	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		12/15/11 17:00	12/16/11 23:42	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		12/15/11 17:00	12/16/11 23:42	1
Chromium	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:42	1
Copper	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:42	1
Lead	<0.0075		0.0075	0.0050	mg/L		12/15/11 17:00	12/16/11 23:42	1
Nickel	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:42	1
Selenium	<0.050		0.050	0.010	mg/L		12/15/11 17:00	12/16/11 23:42	1
Silver	<0.025		0.025	0.0050	mg/L		12/15/11 17:00	12/16/11 23:42	1
Zinc	<0.10		0.10	0.020	mg/L		12/15/11 17:00	12/16/11 23:42	1
Manganese	0.046		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:42	1

Method: 6010B - Total Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.13	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Arsenic	8.3		0.58	0.082	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Barium	50		0.58	0.033	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Beryllium	0.45		0.23	0.012	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Cadmium	0.049	J B	0.12	0.016	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Chromium	12		0.58	0.050	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Copper	21		0.58	0.082	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Lead	15		0.29	0.14	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Nickel	18		0.58	0.039	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Selenium	0.38	J	0.58	0.16	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Silver	<0.29		0.29	0.037	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Thallium	<0.58		0.58	0.20	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Zinc	33	B	1.2	0.094	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1
Manganese	410		0.58	0.025	mg/Kg	☐	12/14/11 15:00	12/15/11 10:06	1

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**Client Sample Results**

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B13  
 Date Collected: 12/08/11 15:25  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-22  
 Matrix: Solid

Method: 6020 - Metals (ICP/MS) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		12/15/11 17:00	12/19/11 13:20	1
Thallium	<0.0020		0.0020	0.0020	mg/L		12/15/11 17:00	12/19/11 13:20	1

Method: 7470A - TCLP Mercury - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00083	J * B	0.0020	0.00020	mg/L		12/16/11 15:40	12/18/11 13:20	1

Method: 7471A - Mercury									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.040		0.018	0.0054	mg/Kg	□	12/15/11 09:15	12/16/11 11:38	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.27		0.200	0.200	SU			12/20/11 11:20	1



Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B14

Lab Sample ID: 500-43084-23

Date Collected: 12/08/11 15:30

Matrix: Solid

Date Received: 12/09/11 07:00

Percent Solids: 83.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0045		0.0045	0.0022	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Benzene	<0.0045		0.0045	0.00049	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Bromodichloromethane	<0.0045		0.0045	0.00069	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Bromoform	<0.0045		0.0045	0.00073	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Bromomethane	<0.0045		0.0045	0.00096	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
2-Butanone (MEK)	<0.0045		0.0045	0.00097	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Carbon disulfide	<0.0045		0.0045	0.00064	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Carbon tetrachloride	<0.0045		0.0045	0.00098	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Chlorobenzene	<0.0045		0.0045	0.00071	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Chloroethane	<0.0045		0.0045	0.00095	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Chloroform	<0.0045		0.0045	0.00083	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Chloromethane	<0.0045		0.0045	0.00074	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
cis-1,2-Dichloroethene	<0.0045		0.0045	0.00066	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
cis-1,3-Dichloropropene	<0.0045		0.0045	0.00051	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Dibromochloromethane	<0.0045		0.0045	0.00062	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,1-Dichloroethane	<0.0045		0.0045	0.00071	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,2-Dichloroethane	<0.0045		0.0045	0.00046	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,1-Dichloroethene	<0.0045		0.0045	0.00071	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,2-Dichloropropane	<0.0045		0.0045	0.0010	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,3-Dichloropropene, Total	<0.0045		0.0045	0.00051	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Ethylbenzene	<0.0045		0.0045	0.00068	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
2-Hexanone	<0.0045		0.0045	0.00064	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Methylene Chloride	<0.0045		0.0045	0.0013	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
4-Methyl-2-pentanone (MIBK)	<0.0045		0.0045	0.00077	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Methyl tert-butyl ether	<0.0045		0.0045	0.00068	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Styrene	<0.0045		0.0045	0.00057	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,1,2,2-Tetrachloroethane	<0.0045		0.0045	0.00061	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Tetrachloroethene	<0.0045		0.0045	0.00086	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Toluene	<0.0045		0.0045	0.00087	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
trans-1,2-Dichloroethene	<0.0045		0.0045	0.00064	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
trans-1,3-Dichloropropene	<0.0045		0.0045	0.0010	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,1,1-Trichloroethane	<0.0045		0.0045	0.00087	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
1,1,2-Trichloroethane	<0.0045		0.0045	0.00060	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Trichloroethene	<0.0045		0.0045	0.00073	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Vinyl chloride	<0.0045		0.0045	0.00063	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1
Xylenes, Total	<0.0090		0.0090	0.00063	mg/Kg	☐	12/08/11 15:30	12/14/11 09:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		67 - 120	12/08/11 15:30	12/14/11 09:54	1
Dibromofluoromethane	93		69 - 120	12/08/11 15:30	12/14/11 09:54	1
1,2-Dichloroethane-d4 (Surr)	100		69 - 120	12/08/11 15:30	12/14/11 09:54	1
Toluene-d8 (Surr)	102		69 - 122	12/08/11 15:30	12/14/11 09:54	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.039		0.039	0.012	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Acenaphthylene	<0.036		0.036	0.0091	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Anthracene	<0.039		0.039	0.0093	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Benzo[a]anthracene	<0.039		0.039	0.0083	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Benzo[a]pyrene	<0.039		0.039	0.0072	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B14  
 Date Collected: 12/08/11 15:30  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-23  
 Matrix: Solid  
 Percent Solids: 83.4

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	<0.039		0.039	0.0077	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Benzo[g,h,i]perylene	<0.039		0.039	0.013	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Benzo[k]fluoranthene	<0.039		0.039	0.0094	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.058	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.052	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Butyl benzyl phthalate	<0.20		0.20	0.049	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Carbazole	<0.20		0.20	0.055	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
4-Chloroaniline	<0.79		0.79	0.12	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
4-Chloro-3-methylphenol	<0.39		0.39	0.19	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2-Chlorophenol	<0.20		0.20	0.056	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.062	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Chrysene	<0.039		0.039	0.0089	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Dibenz(a,h)anthracene	<0.039		0.039	0.011	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
1,2-Dichlorobenzene	<0.20		0.20	0.043	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
1,3-Dichlorobenzene	<0.20		0.20	0.041	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
1,4-Dichlorobenzene	<0.20		0.20	0.041	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.033	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2,4-Dichlorophenol	<0.39		0.39	0.12	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Diethyl phthalate	<0.20		0.20	0.066	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2,4-Dimethylphenol	<0.39		0.39	0.12	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Dimethyl phthalate	<0.20		0.20	0.049	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Di-n-butyl phthalate	<0.20		0.20	0.050	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
4,6-Dinitro-2-methylphenol	<0.39		0.39	0.096	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2,4-Dinitrophenol	<0.79		0.79	0.20	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2,4-Dinitrotoluene	<0.20		0.20	0.060	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2,6-Dinitrotoluene	<0.20		0.20	0.047	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Di-n-octyl phthalate	<0.20		0.20	0.080	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Fluoranthene	<0.039		0.039	0.016	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Fluorene	<0.039		0.039	0.0090	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Hexachlorobenzene	<0.079		0.079	0.0078	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Hexachlorobutadiene	<0.20		0.20	0.052	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Hexachlorocyclopentadiene	<0.79		0.79	0.18	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Hexachloroethane	<0.20		0.20	0.042	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Indeno[1,2,3-cd]pyrene	<0.039		0.039	0.013	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Isophorone	<0.20		0.20	0.044	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2-Methylnaphthalene	<0.20		0.20	0.051	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2-Methylphenol	<0.20		0.20	0.052	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
3 & 4 Methylphenol	<0.20		0.20	0.075	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Naphthalene	<0.039		0.039	0.0076	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2-Nitroaniline	<0.20		0.20	0.071	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
3-Nitroaniline	<0.39		0.39	0.076	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
4-Nitroaniline	<0.39		0.39	0.081	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
Nitrobenzene	<0.039		0.039	0.012	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
2-Nitrophenol	<0.39		0.39	0.062	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1
4-Nitrophenol	<0.79		0.79	0.21	mg/Kg	☐	12/13/11 07:22	12/15/11 22:39	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B14

Lab Sample ID: 500-43084-23

Date Collected: 12/08/11 15:30

Matrix: Solid

Date Received: 12/09/11 07:00

Percent Solids: 83.4

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	<0.20		0.20	0.050	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
N-Nitrosodiphenylamine	<0.20		0.20	0.053	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.044	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
Pentachlorophenol	<0.79		0.79	0.20	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
Phenanthrene	<0.039		0.039	0.016	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
Phenol	<0.20		0.20	0.062	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
Pyrene	<0.039		0.039	0.014	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.045	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
2,4,5-Trichlorophenol	<0.39		0.39	0.11	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
2,4,6-Trichlorophenol	<0.39		0.39	0.049	mg/Kg	□	12/13/11 07:22	12/15/11 22:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	83		27 - 113				12/13/11 07:22	12/15/11 22:39	1
2-Fluorophenol	74		30 - 110				12/13/11 07:22	12/15/11 22:39	1
Nitrobenzene-d5	92		22 - 110				12/13/11 07:22	12/15/11 22:39	1
Phenol-d5	83		26 - 112				12/13/11 07:22	12/15/11 22:39	1
Terphenyl-d14	86		33 - 129				12/13/11 07:22	12/15/11 22:39	1
2,4,6-Tribromophenol	95		30 - 137				12/13/11 07:22	12/15/11 22:39	1

Method: 6010B - PPL+Ba Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		12/15/11 17:00	12/16/11 23:48	1
Barium	0.16	J	0.50	0.010	mg/L		12/15/11 17:00	12/16/11 23:48	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		12/15/11 17:00	12/16/11 23:48	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		12/15/11 17:00	12/16/11 23:48	1
Chromium	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:48	1
Copper	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:48	1
Lead	<0.0075		0.0075	0.0050	mg/L		12/15/11 17:00	12/16/11 23:48	1
Nickel	<0.025		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:48	1
Selenium	<0.050		0.050	0.010	mg/L		12/15/11 17:00	12/16/11 23:48	1
Silver	<0.025		0.025	0.0050	mg/L		12/15/11 17:00	12/16/11 23:48	1
Zinc	<0.10		0.10	0.020	mg/L		12/15/11 17:00	12/16/11 23:48	1
Manganese	0.050		0.025	0.010	mg/L		12/15/11 17:00	12/16/11 23:48	1

Method: 6010B - Total Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.13	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Arsenic	8.7		0.58	0.081	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Barium	40		0.58	0.032	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Beryllium	0.46		0.23	0.012	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Cadmium	0.093	J B	0.12	0.016	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Chromium	11		0.58	0.049	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Copper	28		0.58	0.081	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Lead	17		0.29	0.14	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Nickel	21		0.58	0.038	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Selenium	0.33	J	0.58	0.16	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Silver	<0.29		0.29	0.036	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Thallium	0.29	J	0.58	0.20	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Zinc	46	B	1.2	0.092	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1
Manganese	660		0.58	0.024	mg/Kg	□	12/14/11 15:00	12/15/11 10:12	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

Client Sample ID: 1577AV-16-B14  
 Date Collected: 12/08/11 15:30  
 Date Received: 12/09/11 07:00

Lab Sample ID: 500-43084-23  
 Matrix: Solid

Method: 6020 - Metals (ICP/MS) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		12/15/11 17:00	12/19/11 13:21	1
Thallium	<0.0020		0.0020	0.0020	mg/L		12/15/11 17:00	12/19/11 13:21	1

Method: 7470A - TCLP Mercury - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0011	J * B	0.0020	0.00020	mg/L		12/16/11 15:40	12/18/11 13:22	1

Method: 7471A - Mercury									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.049		0.018	0.0054	mg/Kg	□	12/15/11 09:15	12/16/11 11:49	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.38		0.200	0.200	SU			12/20/11 11:25	1



## Definitions/Glossary

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

### Qualifiers

#### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS or MSD exceeds the control limits
*	LCS or LCSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

#### GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
*	LCS or LCSD exceeds the control limits
E	Result exceeded calibration range.
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits
F	Duplicate RPD exceeds the control limit
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Chicago

### Certification Summary

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43084-1  
 SDG: 500-43084-1

#### Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	06-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Georgia	State Program	4	939	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	6908	08-31-13
South Carolina	State Program	4	77001	06-30-13 *
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-13
Wyoming	State Program	8	8TMS-Q	07-15-13

\* Expired certification is currently pending renewal and is considered valid.





CHAIN OF CUSTODY RECORD

<b>Client Contact</b> Andrews Engineering, Inc. 3300 Ginger Creek Drive Springfield, IL 62711 217-787-2334 Contact: Colleen Grey email: cgrey@andrews-eng.com		<b>Laboratory</b> Lab: Test America - Chicago Address: 2417 Bond Street University Park, IL 60484 Phone: 708-534-5200 Contact: Dick Wright email: richard.wright@testamericainc.com		Project Name: <u>157-Will Co</u>		COC No.: <u>1</u> of <u>2</u>											
				Project No.: <u>IDOT2011-012</u>		Lab Job No.: <u>500</u>											
				TAT: <input checked="" type="checkbox"/> 15 BD <input type="checkbox"/> 10 BD <input type="checkbox"/> 5 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> Other		<u>43084</u>											
				Sampler:		Sample Temp: <u>(31)(36)</u>											
<b>Special Instructions:</b> See Table 1 for complete parameter lists and reporting limit requirements. *If TCLP result exceeds Class I Standard, run SPLP for that specific parameter.				<b>ANALYSES</b>				<b>Matrix Key:</b> W - Water S - Soil SL - Sludge SE - Sediment L - Leachate DW - Drinking Water OL - Oil O - Other									
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	VOCs	SVOCs	BETX & MTBE	PNAS	Pesticides	PCBS	Total Metals	TCLP/SPLP Metals	pH	% Solids	Waste Characterization	Comments	
1	1577AV-23-B02	12/8	8:45	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
2	1577AV-23-B03	12/8	9:00	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
3	1577AV-26-B02	12/8	8:55	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
4	1577AV-23-B05	12/8	9:10	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
5	1577AV-23-B06	12/8	9:20	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
6	1577AV-23-B08	12/8	9:45	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
7	1577AV-23-B07	12/8	10:15	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
8	1577AV-23-B04	12/8	10:40	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
9	1577AV-23-B04 WC	12/8	10:45	S									✓	✓	✓	0-5'	
10	1577AV-11-B02-1	12/8	11:45	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
11	1577AV-11-B02-2	12/8	12:00	S			✓	✓	✓		✓	✓	✓	✓		5-9'	
12	1577AV-11-B02-1WA	12/8	12:15	S			✓	✓	✓		✓	✓	✓	✓		0-5'	
Relinquished by: <u>Seth Sturgeon</u>		Date/Time: <u>12/8/11 1615</u>		Received by: <u>[Signature]</u>		Date/Time: <u>12/8/11 1615</u>											
Relinquished by:		Date/Time:		Received by:		Date/Time:											
Relinquished by:		Date/Time:		Received by:		Date/Time:											



CHAIN OF CUSTODY RECORD

<b>Client Contact</b> Andrews Engineering, Inc. 3300 Ginger Creek Drive Springfield, IL 62711 217-787-2334 Contact: Colleen Grey email: cgrey@andrews-eng.com		<b>Laboratory</b> Lab: Test America - Chicago Address: 2417 Bond Street University Park, IL 60484 Phone: 708-534-5200 Contact: Dick Wright email: richard.wright@testamericainc.com		Project Name: <u>157 Will Co</u>		COC No.: <u>2</u> of <u>2</u>										
		Project No.: <u>IDOT2011-012</u>		TAT: <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 10 BD <input type="checkbox"/> 15 BD <input type="checkbox"/> 2 RD <input type="checkbox"/> Other		Lab Job No.: <u>500-</u> <u>43084</u>										
		Sampler:				Sample Temp:										
<b>Special Instructions:</b> See Table 1 for complete parameter lists and reporting limit requirements. *If TCLP result exceeds Class I Standard, run SPLP for that specific parameter.				<b>ANALYSES</b>				<b>Matrix Key:</b> W - Water S - Soil SL - Sludge SE - Sediment L - Leachate DW - Drinking Water OL - Oil O - Other								
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	VOCs	SVOCs	BETX & MTBE	PNAS	Pesticides	PCBs	Total Metals	TCLP/SPLP Metals	pH	% Solids	Waste Characterization	Comments
13	1577AV-11-B03-1	12/8	12:30	S			✓	✓	✓		✓	✓	✓	✓		0-5'
14	1577AV-11-B03-2	12/8	12:45	S			✓	✓	✓		✓	✓	✓	✓		5-9'
15	1577AV-11-B04-1	12/8	1:00	S			✓	✓	✓		✓	✓	✓	✓		0-5'
16	1577AV-11-B04-2	12/8	1:15	S			✓	✓	✓		✓	✓	✓	✓		5-9'
17	1577AV-11-B05-1	12/8	2:15	S			✓	✓	✓		✓	✓	✓	✓		0-5'
18	1577AV-11-B05-2	12/8	2:25	S			✓	✓	✓		✓	✓	✓	✓		5-9'
19	1577AV-11-B01-1	12/8	2:35	S			✓	✓	✓		✓	✓	✓	✓		0-5'
20	1577AV-11-B01-2	12/8	2:45	S			✓	✓	✓		✓	✓	✓	✓		5-9'
21	1577AV-16-B12	12/8	3:15	S			✓	✓	✓		✓	✓	✓	✓		0-5'
22	1577AV-16-B13	12/8	3:25	S			✓	✓	✓		✓	✓	✓	✓		0-5'
23	1577AV-16-B14	12/8	3:30	S			✓	✓	✓		✓	✓	✓	✓		12-5'
Relinquished by: <u>Seth Sturgeon</u>				Date/Time: <u>12/8/11</u>	Received by: <u>[Signature]</u>	Date/Time: <u>12/8/11</u>	<u>1615</u>									
Relinquished by:				Date/Time:	Received by:	Date/Time:										
Relinquished by:				Date/Time:	Received by:	Date/Time:										



# Illinois Environmental Protection Agency

Page 1 of 2

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

**Uncontaminated Soil Certification**  
**by Licensed Professional Engineer or Licensed Professional Geologist**  
**for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation**  
**LPC-663**

**Revised in accordance with 35 Ill. Adm. Code 1100, as**  
**amended by PCB R2012-009 (eff. Aug. 27, 2012)**

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

## I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: FAI 57 (I57) at Stuenkel Road Office Phone Number, if available: \_\_\_\_\_

Physical Site Location (address, including number and street):

23700 Block of Ridgeland Avenue, Northeast corner of Ridgeland Avenue & Stuenkel Road

City: Unincorporated State: IL Zip Code: 60449

County: Will Township: Monee

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.45621 Longitude: -87.76218  
(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

GPS  Map Interpolation  Photo Interpolation  Survey  Other

IEPA Site Number(s), if assigned: BOL: \_\_\_\_\_ BOW: \_\_\_\_\_ BOA: \_\_\_\_\_

## II. Owner/Operator Information for Source Site

Site Owner

Name: Illinois Department of Transportation

Street Address: 201 West Center Street

PO Box: \_\_\_\_\_

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4101

Contact: Sam Mead

Email, if available: Sam.Mead@illinois.gov

Site Operator

Name: Illinois Department of Transportation

Street Address: 201 West Center Street

PO Box: \_\_\_\_\_

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4101

Contact: Sam Mead

Email, if available: Sam.Mead@illinois.gov

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

IL 532-2922  
LPC 663 Rev. 8/2012

Project Name: FAI 57 (I57) at Stuenkel Road  
Latitude: 41.45621 Longitude: -87.76218

Uncontaminated Site Certification

**III. Basis for Certification and Attachments**

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

LOCATIONS 1577AV-26-B01 AND 1577AV-26-B05 WERE SAMPLED ADJACENT TO ISGS SITE 1577AV-26. SEE FIGURES 4 & 5 AND TABLE 5m OF REVISED PRELIMINARY SITE INVESTIGATION.

- b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

TEST AMERICA ANALYTICAL REPORT - JOB ID's: 500-43020-1 AND 500-43140-1.

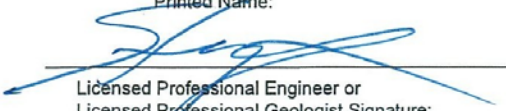
**IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist**

I, Steven Gobleman, P.E., L.P.G. (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

*Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))*

Company Name: IDOT Bureau of Design and Environment  
Street Address: 2300 South Dirksen Parkway  
City: Springfield State: IL Zip Code: 62764  
Phone: 217.785.4246

Steven Gobleman  
Printed Name:

  
Licensed Professional Engineer or  
Licensed Professional Geologist Signature:

7/12/13  
Date:



THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

<b>Volatile Organic Compounds (mg/kg)</b>
Benzene
Ethylbenzene
Methyl-tert-butyl-ether (MTBE)
Toluene
Xylenes, total
m-xylene
o-xylene
p-xylene
<b>Semivolatile Organic Compounds (mg/kg)</b>
Acenaphthene
Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Chrysene
Dibenzo (a,h) anthracene
Fluoranthene
Fluorene
Indeno (1,2,3-cd) pyrene
Naphthalene
Pyrene
<b>Pesticides/Herbicides (mg/kg)</b>
DDD
DDE
DDT
Aldrin
alpha-BHC
alpha-Chlordane
beta-BHC
Chlordane
delta-BHC
Dieldrin
Endosulfan
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Endrin ketone
gamma-BHC (Lindane)
gamma-Chlordane
Heptachlor
Heptachlor epoxide
Methoxychlor
Toxaphene

THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

<b>Metals, Total (mg/kg)</b>
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Copper
Lead
Manganese
Mercury
Nickel
Selenium
Silver
Thallium
Zinc
<b>TCLP/SPLP Metals (mg/L)</b>
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Copper
Lead
Manganese
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

The following table summarizes the results of laboratory analysis of site soil samples. In reading the table,

- Only parameters reported at concentrations above the most stringent MAC are listed.
- If all samples at a site were below the most stringent MAC, the notation “**No Contaminants of Concern Noted**” is used.

The laboratory report for site soils follows this summary table.

*Uncontaminated Soil*  
*Monee Township and University Park, Will County, Illinois*

**ISGS Site 1577AV-26**  
**Agricultural Land & Vacant Bldg.**

Sample ID	1577AV-26-B01	1577AV-26-B05
Sample Depth (ft)	0-4.25	0-4.25
Sample Date	12/12/2011	12/7/2011
% Solids	84	85
Sample pH	7.58	8.13
Matrix	Soil	Soil
<b>No Contaminants of Concern Noted</b>		



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-43140-1  
TestAmerica Sample Delivery Group: 500-43140-1  
Client Project/Site: IDOT - I-57 - WO 012  
Revision: 1

For:  
Andrews Engineering Inc.  
3300 Ginger Creek Drive  
Springfield, Illinois 62711

Attn: Mike Nelson



Authorized for release by:  
7/9/2013 3:39:51 PM

Richard Wright, Project Manager II  
richard.wright@testamericainc.com

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### LINKS

Review your project  
results through  
**Total Access**

Have a Question?

 **Ask  
The  
Expert**

Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

Sample Summary

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-43140-1	1577AV-26-B01	Solid	12/12/11 08:45	12/12/11 16:13
500-43140-2	1577AV-26-B01 DUP	Solid	12/12/11 08:45	12/12/11 16:13
500-43140-3	1577AV-26-B08	Solid	12/12/11 09:00	12/12/11 16:13
500-43140-4	1577AV-26-B09	Solid	12/12/11 09:15	12/12/11 16:13
500-43140-5	1577AV-26-B10	Solid	12/12/11 13:30	12/12/11 16:13
500-43140-6	1577AV-24-B01	Solid	12/12/11 13:00	12/12/11 16:13
500-43140-7	1577AV-24-B02	Solid	12/12/11 12:30	12/12/11 16:13
500-43140-8	1577AV-24-B02 WC	Solid	12/12/11 13:15	12/12/11 16:13
500-43140-9	1577AV-26-B10 WC	Solid	12/12/11 13:30	12/12/11 16:13
500-43140-10	1577AV-11-B06-1	Solid	12/12/11 14:45	12/12/11 16:13
500-43140-11	1577AV-11-B06-2	Solid	12/12/11 15:00	12/12/11 16:13
500-43140-12	1577AV-11-B06 WC	Solid	12/12/11 15:00	12/12/11 16:13
500-43140-13	1577AV-7-B01	Solid	12/12/11 15:15	12/12/11 16:13
500-43140-14	1577AV-7-B02	Solid	12/12/11 15:30	12/12/11 16:13
500-43140-15	1577AV-7-B02 WC	Solid	12/12/11 15:30	12/12/11 16:13

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Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

Client Sample ID: 1577AV-26-B01

Lab Sample ID: 500-43140-1

Date Collected: 12/12/11 08:45

Matrix: Solid

Date Received: 12/12/11 16:13

Percent Solids: 83.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0048		0.0048	0.00052	mg/Kg	☐	12/12/11 08:45	12/14/11 15:06	1
Ethylbenzene	<0.0048		0.0048	0.00073	mg/Kg	☐	12/12/11 08:45	12/14/11 15:06	1
Methyl tert-butyl ether	<0.0048		0.0048	0.00073	mg/Kg	☐	12/12/11 08:45	12/14/11 15:06	1
Toluene	<0.0048		0.0048	0.00094	mg/Kg	☐	12/12/11 08:45	12/14/11 15:06	1
Xylenes, Total	<0.0097		0.0097	0.00068	mg/Kg	☐	12/12/11 08:45	12/14/11 15:06	1
<b>Surrogate</b>									
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	95		67 - 120				12/12/11 08:45	12/14/11 15:06	1
Dibromofluoromethane	100		69 - 120				12/12/11 08:45	12/14/11 15:06	1
1,2-Dichloroethane-d4 (Surr)	110		69 - 120				12/12/11 08:45	12/14/11 15:06	1
Toluene-d8 (Surr)	108		69 - 122				12/12/11 08:45	12/14/11 15:06	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.037		0.037	0.011	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Acenaphthylene	<0.034		0.034	0.0087	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Anthracene	<0.037		0.037	0.0089	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Benzo[a]anthracene	<0.037		0.037	0.0079	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Benzo[a]pyrene	<0.037		0.037	0.0069	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Benzo[b]fluoranthene	<0.037		0.037	0.0073	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Benzo[g,h,i]perylene	<0.037		0.037	0.013	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Benzo[k]fluoranthene	<0.037		0.037	0.0090	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Chrysene	<0.037		0.037	0.0085	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Dibenz[a,h]anthracene	<0.037		0.037	0.011	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Fluoranthene	<0.037		0.037	0.015	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Fluorene	<0.037		0.037	0.0086	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Indeno[1,2,3-cd]pyrene	<0.037		0.037	0.013	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Naphthalene	<0.037		0.037	0.0073	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Phenanthrene	<0.037		0.037	0.016	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
Pyrene	<0.037		0.037	0.014	mg/Kg	☐	12/13/11 18:35	12/21/11 15:24	1
<b>Surrogate</b>									
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	67		27 - 113				12/13/11 18:35	12/21/11 15:24	1
Nitrobenzene-d5	65		22 - 110				12/13/11 18:35	12/21/11 15:24	1
Terphenyl-d14	75		33 - 129				12/13/11 18:35	12/21/11 15:24	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0019		0.0019	0.00079	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
alpha-BHC	<0.0019		0.0019	0.00051	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
alpha-Chlordane	0.0022		0.0019	0.00052	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
beta-BHC	<0.0019		0.0019	0.00083	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
4,4'-DDD	<0.0019		0.0019	0.00061	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
4,4'-DDE	<0.0019		0.0019	0.00048	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
4,4'-DDT	<0.0019		0.0019	0.00073	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
delta-BHC	<0.0019		0.0019	0.00057	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Dieldrin	<0.0019		0.0019	0.00053	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Endosulfan I	<0.0019		0.0019	0.00056	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Endosulfan II	<0.0019		0.0019	0.00050	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Endosulfan sulfate	<0.0019		0.0019	0.00063	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

Client Sample ID: 1577AV-26-B01

Lab Sample ID: 500-43140-1

Date Collected: 12/12/11 08:45

Matrix: Solid

Date Received: 12/12/11 16:13

Percent Solids: 83.8

Method: 8081A - Organochlorine Pesticides (GC) (Continued)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	<0.0019		0.0019	0.00056	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Endrin aldehyde	<0.0019		0.0019	0.00045	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Endrin ketone	<0.0019		0.0019	0.00052	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
gamma-BHC (Lindane)	<0.0019		0.0019	0.00053	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
gamma-Chlordane	0.0031		0.0019	0.00067	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Heptachlor	<0.0019		0.0019	0.00087	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Heptachlor epoxide	<0.0019		0.0019	0.00086	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Methoxychlor	<0.0094		0.0094	0.00061	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1
Toxaphene	<0.019		0.019	0.0060	mg/Kg	☐	12/15/11 07:25	12/17/11 02:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	87		43 - 126	12/15/11 07:25	12/17/11 02:37	1
Tetrachloro-m-xylene	79		32 - 111	12/15/11 07:25	12/17/11 02:37	1

Method: 6010B - PPL+Ba Metals - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		12/16/11 18:00	12/18/11 00:29	1
Barium	0.12	J	0.50	0.010	mg/L		12/16/11 18:00	12/18/11 00:29	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		12/16/11 18:00	12/18/11 00:29	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		12/16/11 18:00	12/18/11 00:29	1
Chromium	<0.025		0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:29	1
Copper	<0.025		0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:29	1
Lead	<0.0075		0.0075	0.0050	mg/L		12/16/11 18:00	12/18/11 00:29	1
Nickel	<0.025		0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:29	1
Selenium	<0.050		0.050	0.010	mg/L		12/16/11 18:00	12/18/11 00:29	1
Silver	<0.025		0.025	0.0050	mg/L		12/16/11 18:00	12/18/11 00:29	1
Zinc	<0.10		0.10	0.020	mg/L		12/16/11 18:00	12/18/11 00:29	1
Manganese	0.050		0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:29	1

Method: 6010B - Total Metals									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.13	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Arsenic	5.0		0.56	0.079	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Barium	110	B	0.56	0.032	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Beryllium	0.58		0.23	0.011	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Cadmium	0.27		0.11	0.015	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Chromium	15		0.56	0.048	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Copper	27		0.56	0.079	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Lead	24		0.28	0.14	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Nickel	19		0.56	0.037	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Selenium	<0.56		0.56	0.16	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Silver	<0.28		0.28	0.036	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Thallium	0.56		0.56	0.19	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Zinc	48	B	1.1	0.090	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1
Manganese	750	B E	0.56	0.024	mg/Kg	☐	12/15/11 07:30	12/16/11 13:17	1

Method: 6020 - Metals (ICP/MS) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		12/16/11 18:00	12/19/11 14:01	1
Thallium	<0.0020		0.0020	0.0020	mg/L		12/16/11 18:00	12/19/11 14:01	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

Client Sample ID: 1577AV-26-B01

Lab Sample ID: 500-43140-1

Date Collected: 12/12/11 08:45

Matrix: Solid

Date Received: 12/12/11 16:13

Method: 7470A - TCLP Mercury - TCLP										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	0.00062	J B	0.0020	0.00020	mg/L	-	12/17/11 15:45	12/18/11 10:04	1	

Method: 7471A - Mercury										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	0.060		0.018	0.0056	mg/Kg	☐	12/18/11 09:25	12/19/11 08:30	1	

General Chemistry										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
pH	7.58		0.200	0.200	SU	-		12/21/11 10:10	1	

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- 11
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- 14
- 15

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

Client Sample ID: 1577AV-26-B01 DUP

Lab Sample ID: 500-43140-2

Date Collected: 12/12/11 08:45

Matrix: Solid

Date Received: 12/12/11 16:13

Percent Solids: 83.6

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0050		0.0050	0.00054	mg/Kg	☐	12/12/11 08:45	12/14/11 15:33	1
Ethylbenzene	<0.0050		0.0050	0.00075	mg/Kg	☐	12/12/11 08:45	12/14/11 15:33	1
Methyl tert-butyl ether	<0.0050		0.0050	0.00075	mg/Kg	☐	12/12/11 08:45	12/14/11 15:33	1
Toluene	<0.0050		0.0050	0.00098	mg/Kg	☐	12/12/11 08:45	12/14/11 15:33	1
Xylenes, Total	<0.010		0.010	0.00070	mg/Kg	☐	12/12/11 08:45	12/14/11 15:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		67 - 120				12/12/11 08:45	12/14/11 15:33	1
Dibromofluoromethane	99		69 - 120				12/12/11 08:45	12/14/11 15:33	1
1,2-Dichloroethane-d4 (Surr)	111		69 - 120				12/12/11 08:45	12/14/11 15:33	1
Toluene-d8 (Surr)	103		69 - 122				12/12/11 08:45	12/14/11 15:33	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038	0.011	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Acenaphthylene	<0.034		0.034	0.0087	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Anthracene	<0.038		0.038	0.0089	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Benzo[a]anthracene	<0.038		0.038	0.0079	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Benzo[a]pyrene	<0.038		0.038	0.0069	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Benzo[b]fluoranthene	<0.038		0.038	0.0074	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Benzo[g,h,i]perylene	<0.038		0.038	0.013	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Benzo[k]fluoranthene	<0.038		0.038	0.0090	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Chrysene	<0.038		0.038	0.0086	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Dibenz[a,h]anthracene	<0.038		0.038	0.011	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Fluoranthene	<0.038		0.038	0.016	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Fluorene	<0.038		0.038	0.0086	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.013	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Naphthalene	<0.038		0.038	0.0073	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Phenanthrene	<0.038		0.038	0.016	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Pyrene	<0.038		0.038	0.014	mg/Kg	☐	12/13/11 18:35	12/21/11 15:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		27 - 113				12/13/11 18:35	12/21/11 15:46	1
Nitrobenzene-d5	80		22 - 110				12/13/11 18:35	12/21/11 15:46	1
Terphenyl-d14	90		33 - 129				12/13/11 18:35	12/21/11 15:46	1

Method: 8081A - Organochlorine Pesticides (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0020		0.0020	0.00083	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
alpha-BHC	<0.0020		0.0020	0.00053	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
alpha-Chlordane	<0.0020		0.0020	0.00054	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
beta-BHC	<0.0020		0.0020	0.00086	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
4,4'-DDD	<0.0020		0.0020	0.00064	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
4,4'-DDE	<0.0020		0.0020	0.00050	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
4,4'-DDT	<0.0020		0.0020	0.00076	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
delta-BHC	<0.0020		0.0020	0.00059	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Dieldrin	<0.0020		0.0020	0.00056	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Endosulfan I	<0.0020		0.0020	0.00058	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Endosulfan II	<0.0020		0.0020	0.00052	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Endosulfan sulfate	<0.0020		0.0020	0.00066	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

Client Sample ID: 1577AV-26-B01 DUP

Lab Sample ID: 500-43140-2

Date Collected: 12/12/11 08:45

Matrix: Solid

Date Received: 12/12/11 16:13

Percent Solids: 83.6

Method: 8081A - Organochlorine Pesticides (GC) (Continued)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	<0.0020		0.0020	0.00058	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Endrin aldehyde	<0.0020		0.0020	0.00047	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Endrin ketone	<0.0020		0.0020	0.00054	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
gamma-BHC (Lindane)	<0.0020		0.0020	0.00056	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
gamma-Chlordane	<0.0020		0.0020	0.00070	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Heptachlor	<0.0020		0.0020	0.00091	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Heptachlor epoxide	<0.0020		0.0020	0.00090	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Methoxychlor	<0.0098		0.0098	0.00064	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Toxaphene	<0.020		0.020	0.0062	mg/Kg	☐	12/15/11 07:25	12/17/11 02:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	88		43 - 126				12/15/11 07:25	12/17/11 02:57	1
Tetrachloro-m-xylene	73		32 - 111				12/15/11 07:25	12/17/11 02:57	1

Method: 6010B - PPL+Ba Metals - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		12/16/11 18:00	12/18/11 00:36	1
Barium	0.12	J	0.50	0.010	mg/L		12/16/11 18:00	12/18/11 00:36	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		12/16/11 18:00	12/18/11 00:36	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		12/16/11 18:00	12/18/11 00:36	1
Chromium	<0.025		0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:36	1
Copper	<0.025		0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:36	1
Lead	<0.0075		0.0075	0.0050	mg/L		12/16/11 18:00	12/18/11 00:36	1
Nickel	<0.025		0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:36	1
Selenium	<0.050		0.050	0.010	mg/L		12/16/11 18:00	12/18/11 00:36	1
Silver	<0.025		0.025	0.0050	mg/L		12/16/11 18:00	12/18/11 00:36	1
Zinc	<0.10		0.10	0.020	mg/L		12/16/11 18:00	12/18/11 00:36	1
Manganese	0.017	J	0.025	0.010	mg/L		12/16/11 18:00	12/18/11 00:36	1

Method: 6010B - Total Metals									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.13	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Arsenic	1.9		0.59	0.082	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Barium	50	B	0.59	0.033	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Beryllium	0.61		0.23	0.012	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Cadmium	0.12		0.12	0.016	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Chromium	15		0.59	0.050	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Copper	19		0.59	0.082	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Lead	13		0.29	0.14	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Nickel	13		0.59	0.039	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Selenium	0.26	J	0.59	0.16	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Silver	<0.29		0.29	0.037	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Thallium	0.23	J	0.59	0.20	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Zinc	46	B	1.2	0.094	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1
Manganese	69	B	0.59	0.025	mg/Kg	☐	12/15/11 07:30	12/16/11 13:24	1

Method: 6020 - Metals (ICP/MS) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		12/16/11 18:00	12/19/11 14:01	1
Thallium	<0.0020		0.0020	0.0020	mg/L		12/16/11 18:00	12/19/11 14:01	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

Client Sample ID: 1577AV-26-B01 DUP

Lab Sample ID: 500-43140-2

Date Collected: 12/12/11 08:45

Matrix: Solid

Date Received: 12/12/11 16:13

Method: 7470A - TCLP Mercury - TCLP										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	0.00082	J B	0.0020	0.00020	mg/L	—	12/17/11 15:45	12/18/11 10:06	1	
Method: 7471A - Mercury										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	0.057		0.019	0.0057	mg/Kg	□	12/18/11 09:25	12/19/11 08:32	1	
General Chemistry										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
pH	7.59		0.200	0.200	SU	—		12/21/11 10:14	1	

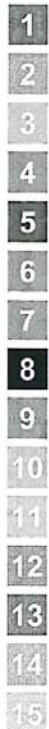
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### Definitions/Glossary

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1



#### Qualifiers

##### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

##### GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

#### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	Duplicate RPD exceeds the control limit
F	MS or MSD exceeds the control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

#### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
"	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

**Certification Summary**

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43140-1  
 SDG: 500-43140-1

**Laboratory: TestAmerica Chicago**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	06-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Georgia	State Program	4	939	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-13
South Carolina	State Program	4	77001	06-30-13 *
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-13
Wyoming	State Program	8	8TMS-Q	07-15-13



\* Expired certification is currently pending renewal and is considered valid.



CHAIN OF CUSTODY RECORD

<b>Client Contact</b> Andrews Engineering, Inc. 3300 Ginger Creek Drive Springfield, IL 62711 217-787-2334 Contact: Colleen Grey email: cgrey@andrews-eng.com		<b>Laboratory</b> Lab: Test America - Chicago Address: 2417 Bond Street University Park, IL 60484 Phone: 708-534-5200 Contact: Dick Wright email: richard.wright@testamericainc.com		Project Name: <u>157 Will Co</u> Project No.: <u>IDOT2011-012</u> TAT: <input checked="" type="checkbox"/> 15 BD <input type="checkbox"/> 10 BD <input type="checkbox"/> 5 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> Other			COC No.: <u>1 of 2</u> Lab Job No.: <u>500-43140</u> Sample Temp.: <u>(39) (37)</u>										
<b>Special Instructions:</b> See Table 1 for complete parameter lists and reporting limit requirements. *If TCLP result exceeds Class I Standard, run SPLP for that specific parameter.				<b>ANALYSES</b>					<b>Matrix Key:</b> W - Water S - Soil SL - Sludge SE - Sediment L - Leachate DW - Drinking Water OL - Oil O - Other								
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	VOCs	SVOCs	BETX & MTBE	PNAS	Pesticides	PCBs	Total Metals	TCLP/SPLP Metals	pH	% Solids	Waste Characterization	Comments	
1	1577AV-26-BO1	12-12-11	8:45	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
2	1577AV-26-BO1 DUP	12-12	8:45	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
3	1577AV-26-BO8	12-12	9:00	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
4	1577AV-26-BO9	12-12	9:15	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
5	1577AV-26-B10	12-12	1:30	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
6	1577AV-24-BO1	12-12	1:00	S			✓	✓	✓		✓	✓	✓	✓		0-2.25'	
7	1577AV-24-BO2	12-12	12:30	S			✓	✓	✓		✓	✓	✓	✓		0-2.25'	
8	1577AV-24B02 WC	12-12	1:15	S									✓	✓	✓	0-2.25'	
9	1577AV-26B10 WC	12-12	1:30	S									✓	✓	✓	0-4.25'	
10	1577AV-11-BO6-1	12-12	2:45	S			✓	✓	✓		✓	✓	✓	✓		0-9'	
11	1577AV-11-BO6-2	12-12	3:00	S			✓	✓	✓		✓	✓	✓	✓		5-9'	
12	1577AV-11-BO6 WC	12-12	3:00	S									✓	✓	✓	0-9'	
Relinquished by: <i>Chad J. Wright</i>		Date/Time: 12/12/11 4:12 PM		Received by: <i>JAMU TACK</i>		Date/Time: 12/12/11 16:13		Relinquished by:		Date/Time:		Received by:		Date/Time: 12/12/11 0530			



CHAIN OF CUSTODY RECORD

<b>Client Contact</b> Andrews Engineering, Inc. 3300 Ginger Creek Drive Springfield, IL 62711 217-787-2334 Contact: Colleen Grey email: cgrey@andrews-eng.com		<b>Laboratory</b> Lab: Test America - Chicago Address: 2417 Bond Street University Park, IL 60484 Phone: 708-534-5200 Contact: Dick Wright email: richard.wright@lestamericainc.com		Project Name: <u>157 Will Co</u> Project No.: <u>IDOT2011-012</u> TAT: <input checked="" type="checkbox"/> 7.5 BD <input type="checkbox"/> 10 BD <input type="checkbox"/> 5 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> Other Sampler:		COC No.: <u>2 of 2</u> Lab Job No.: <u>500-43140</u> Sample Temp:											
<b>Special Instructions:</b> See Table 1 for complete parameter lists and reporting limit requirements. *If TCLP result exceeds Class I Standard, run SPLP for that specific parameter.				<b>ANALYSES</b>				<b>Matrix Key:</b> W - Water S - Soil SL - Sludge SE - Sediment L - Leachate DW - Drinking Water OL - Oil O - Other									
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	VOCs	SVOCs	BETX & MTBE	PNAS	Pesticides	PCBs	Total Metals	TCLP/SPLP Metals	pH	% Solids	Waste Characterization	Comments	
13	1577AV-7-B01	12/12	3:15	S			✓	✓	✓		✓	✓	✓	✓		0-6.5'	
14	1577AV-7-B02	12/12	3:30	S			✓	✓	✓		✓	✓	✓	✓		0-6.5'	
15	1577AV-7-B02WC	12/12	3:30	S									✓	✓	✓	0-6.5'	
Relinquished by: <u>Chaffin</u>		Date/Time: <u>12/12/11 4:13pm</u>		Received by: <u>[Signature]</u>		Date/Time: <u>12/12/11 1613</u>		Relinquished by: <u>[Signature]</u>		Date/Time: <u>12/13/11 0530</u>		Relinquished by:		Date/Time:			

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-43020-1  
TestAmerica Sample Delivery Group: 500-43020-1  
Client Project/Site: IDOT - I-57 - WO 012  
Revision: 1

For:  
Andrews Engineering Inc.  
3300 Ginger Creek Drive  
Springfield, Illinois 62711

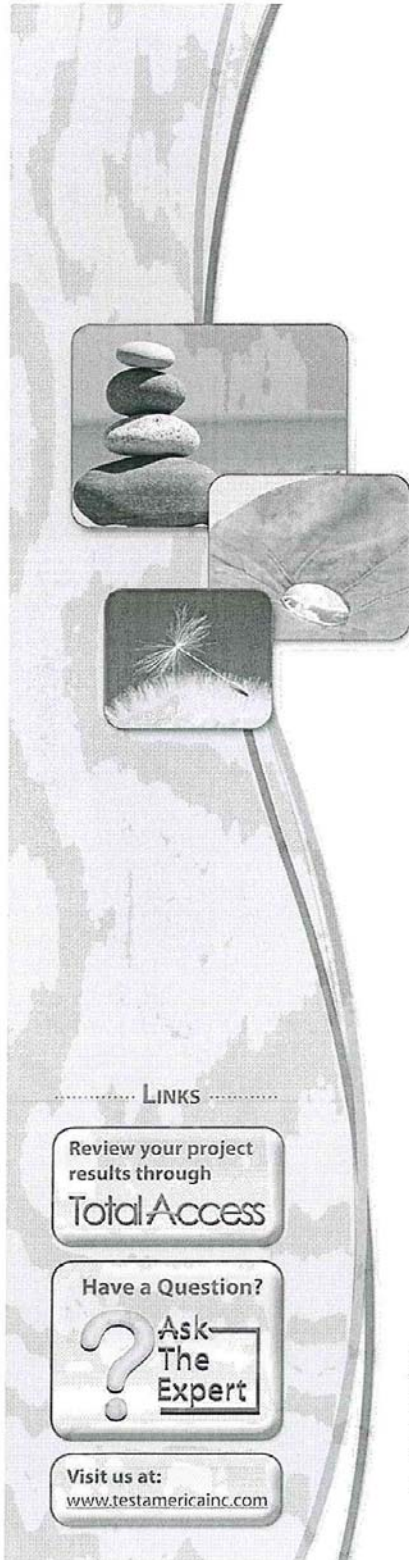
Attn: Mike Nelson



Authorized for release by:  
7/9/2013 8:42:44 AM

Richard Wright, Project Manager II  
richard.wright@testamericainc.com

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LINKS

Review your project results through  
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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

Sample Summary

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43020-1  
 SDG: 500-43020-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-43020-1	1577AV-31-B03-1	Solid	12/07/11 08:30	12/08/11 06:00
500-43020-2	1577AV-31-B03-2	Solid	12/07/11 08:40	12/08/11 06:00
500-43020-3	1577AV-35-B01	Solid	12/07/11 08:50	12/08/11 06:00
500-43020-4	1577AV-35-B01 WC	Solid	12/07/11 09:00	12/08/11 06:00
500-43020-5	1577AV-31-B02-1	Solid	12/07/11 09:10	12/08/11 06:00
500-43020-6	1577AV-31-B02-2	Solid	12/07/11 09:20	12/08/11 06:00
500-43020-7	1577AV-34-B01	Solid	12/07/11 09:30	12/08/11 06:00
500-43020-8	1577AV-34-B01 WC	Solid	12/07/11 09:40	12/08/11 06:00
500-43020-9	1577AV-33-B01	Solid	12/07/11 09:50	12/08/11 06:00
500-43020-10	1577AV-31-B01-1	Solid	12/07/11 10:00	12/08/11 06:00
500-43020-11	1577AV-31-B01-2	Solid	12/07/11 10:10	12/08/11 06:00
500-43020-12	1577AV-33-B02	Solid	12/07/11 10:20	12/08/11 06:00
500-43020-13	1577AV-27-B03	Solid	12/07/11 13:30	12/08/11 06:00
500-43020-14	1577AV-26-B06	Solid	12/07/11 13:45	12/08/11 06:00
500-43020-15	1577AV-28-B03	Solid	12/07/11 14:00	12/08/11 06:00
500-43020-16	1577AV-28-B01	Solid	12/07/11 14:15	12/08/11 06:00
500-43020-17	1577AV-28-B02	Solid	12/07/11 14:30	12/08/11 06:00
500-43020-18	1577AV-28-B02 WC	Solid	12/07/11 14:45	12/08/11 06:00
500-43020-19	1577AV-26-B07	Solid	12/07/11 15:00	12/08/11 06:00
500-43020-20	1577AV-26-B05	Solid	12/07/11 15:15	12/08/11 06:00
500-43020-21	1577AV-26-B04	Solid	12/07/11 15:45	12/08/11 06:00
500-43020-22	1577AV-27-B02	Solid	12/07/11 15:30	12/08/11 06:00
500-43020-23	1577AV-27-B01	Solid	12/07/11 15:50	12/08/11 06:00
500-43020-24	1577AV-27-B01 WC	Solid	12/07/11 15:50	12/08/11 06:00



Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43020-1  
 SDG: 500-43020-1

Client Sample ID: 1577AV-26-B05

Lab Sample ID: 500-43020-20

Date Collected: 12/07/11 15:15

Matrix: Solid

Date Received: 12/08/11 06:00

Percent Solids: 84.5

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0051		0.0051	0.00055	mg/Kg	☐	12/07/11 15:15	12/12/11 16:56	1
Ethylbenzene	<0.0051		0.0051	0.00077	mg/Kg	☐	12/07/11 15:15	12/12/11 16:56	1
Methyl tert-butyl ether	<0.0051		0.0051	0.00077	mg/Kg	☐	12/07/11 15:15	12/12/11 16:56	1
Toluene	<0.0051		0.0051	0.00099	mg/Kg	☐	12/07/11 15:15	12/12/11 16:56	1
Xylenes, Total	<0.010		0.010	0.00072	mg/Kg	☐	12/07/11 15:15	12/12/11 16:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		67 - 120				12/07/11 15:15	12/12/11 16:56	1
Dibromofluoromethane	101		69 - 120				12/07/11 15:15	12/12/11 16:56	1
1,2-Dichloroethane-d4 (Surr)	101		69 - 120				12/07/11 15:15	12/12/11 16:56	1
Toluene-d8 (Surr)	96		69 - 122				12/07/11 15:15	12/12/11 16:56	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038	0.011	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Acenaphthylene	<0.034		0.034	0.0088	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Anthracene	<0.038		0.038	0.0090	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Benzo[a]anthracene	<0.038		0.038	0.0080	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Benzo[a]pyrene	<0.038		0.038	0.0069	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Benzo[b]fluoranthene	<0.038		0.038	0.0074	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Benzo[g,h,i]perylene	<0.038		0.038	0.013	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Benzo[k]fluoranthene	<0.038		0.038	0.0091	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Chrysene	<0.038		0.038	0.0086	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Dibenz[a,h]anthracene	<0.038		0.038	0.011	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Fluoranthene	<0.038		0.038	0.016	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Fluorene	<0.038		0.038	0.0087	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.013	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Naphthalene	<0.038		0.038	0.0073	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Phenanthrene	<0.038		0.038	0.016	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Pyrene	<0.038		0.038	0.014	mg/Kg	☐	12/09/11 07:29	12/20/11 03:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		27 - 113				12/09/11 07:29	12/20/11 03:29	1
Nitrobenzene-d5	52		22 - 110				12/09/11 07:29	12/20/11 03:29	1
Terphenyl-d14	94		33 - 129				12/09/11 07:29	12/20/11 03:29	1

Method: 8081A - Organochlorine Pesticides (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0019		0.0019	0.00078	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
alpha-BHC	<0.0019		0.0019	0.00050	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
alpha-Chlordane	<0.0019		0.0019	0.00051	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
beta-BHC	<0.0019		0.0019	0.00081	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
4,4'-DDD	<0.0019		0.0019	0.00060	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
4,4'-DDE	<0.0019		0.0019	0.00047	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
4,4'-DDT	<0.0019		0.0019	0.00071	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
delta-BHC	<0.0019		0.0019	0.00056	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Dieldrin	<0.0019		0.0019	0.00052	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Endosulfan I	<0.0019		0.0019	0.00055	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Endosulfan II	<0.0019		0.0019	0.00049	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Endosulfan sulfate	<0.0019		0.0019	0.00062	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1

TestAmerica Chicago

Client Sample Results

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43020-1  
 SDG: 500-43020-1

Client Sample ID: 1577AV-26-B05

Lab Sample ID: 500-43020-20

Date Collected: 12/07/11 15:15

Matrix: Solid

Date Received: 12/08/11 06:00

Percent Solids: 84.5

Method: 8081A - Organochlorine Pesticides (GC) (Continued)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	<0.0019		0.0019	0.00055	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Endrin aldehyde	<0.0019		0.0019	0.00045	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Endrin ketone	<0.0019		0.0019	0.00051	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
gamma-BHC (Lindane)	<0.0019		0.0019	0.00052	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
gamma-Chlordane	<0.0019		0.0019	0.00066	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Heptachlor	<0.0019		0.0019	0.00086	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Heptachlor epoxide	<0.0019		0.0019	0.00085	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Methoxychlor	<0.0092		0.0092	0.00060	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1
Toxaphene	<0.019		0.019	0.00059	mg/Kg	☐	12/12/11 00:35	12/14/11 00:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	90		43 - 126	12/12/11 00:35	12/14/11 00:40	1
Tetrachloro-m-xylene	87		32 - 111	12/12/11 00:35	12/14/11 00:40	1

Method: 6010B - PPL+Ba Metals - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		12/15/11 08:45	12/16/11 05:44	1
Barium	0.48	J	0.50	0.010	mg/L		12/15/11 08:45	12/16/11 05:44	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		12/15/11 08:45	12/16/11 05:44	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		12/15/11 08:45	12/16/11 05:44	1
Chromium	<0.025		0.025	0.010	mg/L		12/15/11 08:45	12/16/11 05:44	1
Copper	<0.025		0.025	0.010	mg/L		12/15/11 08:45	12/16/11 05:44	1
Lead	<0.0075		0.0075	0.0050	mg/L		12/15/11 08:45	12/16/11 05:44	1
Nickel	<0.025		0.025	0.010	mg/L		12/15/11 08:45	12/16/11 05:44	1
Selenium	<0.050		0.050	0.010	mg/L		12/15/11 08:45	12/16/11 05:44	1
Silver	<0.025		0.025	0.0050	mg/L		12/15/11 08:45	12/16/11 05:44	1
Zinc	<0.10		0.10	0.020	mg/L		12/15/11 08:45	12/16/11 05:44	1
Manganese	0.12		0.025	0.010	mg/L		12/15/11 08:45	12/16/11 05:44	1

Method: 6010B - Total Metals									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.13	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Arsenic	7.1		0.56	0.078	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Barium	71	B	0.56	0.031	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Beryllium	0.87		0.22	0.011	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Cadmium	0.41		0.11	0.015	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Chromium	22		0.56	0.047	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Copper	26		0.56	0.078	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Lead	12		0.28	0.13	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Nickel	26	B	0.56	0.037	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Selenium	0.20	J	0.56	0.16	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Silver	<0.28		0.28	0.035	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Thallium	0.28	J	0.56	0.19	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Zinc	39	B	1.1	0.089	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1
Manganese	320	B	0.56	0.023	mg/Kg	☐	12/14/11 07:15	12/16/11 09:01	1

Method: 6020 - Metals (ICP/MS) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		12/15/11 08:45	12/19/11 12:33	1
Thallium	<0.0020		0.0020	0.0020	mg/L		12/15/11 08:45	12/19/11 12:33	1

TestAmerica Chicago



**Client Sample Results**

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43020-1  
 SDG: 500-43020-1

Client Sample ID: 1577AV-26-B05

Lab Sample ID: 500-43020-20

Date Collected: 12/07/11 15:15

Matrix: Solid

Date Received: 12/08/11 06:00

Method: 7470A - TCLP Mercury - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0013	J B *	0.0020	0.00020	mg/L		12/16/11 15:40	12/17/11 15:56	1

Method: 7471A - Mercury									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.028		0.020	0.0060	mg/Kg	□	12/15/11 09:15	12/16/11 11:20	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.13		0.200	0.200	SU			12/15/11 14:27	1

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TestAmerica Chicago

**Definitions/Glossary**

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43020-1  
 SDG: 500-43020-1



**Qualifiers**

**GC/MS Semi VOA**

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

**GC Semi VOA**

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

**Metals**

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
*	LCS or LCSD exceeds the control limits
E	Result exceeded calibration range.
F	Duplicate RPD exceeds the control limit
F	MS or MSD exceeds the control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	RPD of the MS and MSD exceeds the control limits

**General Chemistry**

Qualifier	Qualifier Description
A	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Chicago

**Certification Summary**

Client: Andrews Engineering Inc.  
 Project/Site: IDOT - I-57 - WO 012

TestAmerica Job ID: 500-43020-1  
 SDG: 500-43020-1

**Laboratory: TestAmerica Chicago**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	06-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Georgia	State Program	4	939	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-13
South Carolina	State Program	4	77001	06-30-13 *
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	99580010	08-31-13
Wyoming	State Program	8	8TMS-Q	07-15-13



\* Expired certification is currently pending renewal and is considered valid.



CHAIN OF CUSTODY RECORD

<b>Client Contact</b> Andrews Engineering, Inc. 3300 Ginger Creek Drive Springfield, IL 62711 217-787-2334 Contact: Colleen Grey email: cgrey@andrews-eng.com		<b>Laboratory</b> Lab: Test America - Chicago Address: 2417 Bond Street University Park, IL 60484 Phone: 708-534-5200 Contact: Dick Wright email: richard.wright@testamericainc.com		Project Name: <u>I57 Will Co</u>		COC No.: <u>1</u> of <u>4</u>																																																																																																																																																																																																																																													
		Project No.: <u>IDOT2011-012</u>		TAT: <input checked="" type="checkbox"/> 15 BD <input type="checkbox"/> 10 BD <input type="checkbox"/> 5 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> Other		Lab Job No.: <u>500</u> <u>13020</u>																																																																																																																																																																																																																																													
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CHAIN OF CUSTODY RECORD

<b>Client Contact</b> Andrews Engineering, Inc. 3300 Ginger Creek Drive Springfield, IL 62711 217-787-2334 Contact: Colleen Grey email: cgrey@andrews-eng.com		<b>Laboratory</b> Lab: Test America - Chicago Address: 2417 Bond Street University Park, IL 60484 Phone: 708-534-5200 Contact: Dick Wright email: richard.wright@testamericainc.com		Project Name: <u>I57 W-1106</u>		COC No.: <u>3</u> of <u>4</u>											
		Project No.: <u>IDOT2011-012</u>		TAT: <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 10 BD <input type="checkbox"/> 5 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> Other		Lab Job No.: <u>500</u> <u>43020</u>											
Special Instructions: See Table 1 for complete parameter lists and reporting limit requirements. **If TCLP result exceeds Class I Standard, run SPLP for that specific parameter.		<b>ANALYSES</b>						Matrix Key: W - Water S - Soil SL - Sludge SE - Sediment L - Leachate DW - Drinking Water OL - Oil O - Other									
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	VOCs	SVOCs	BETX & MTBE	PNAS	Pesticides	PCBS	Total Metals	TCLP/SPLP Metals	pH	% Solids	Waste Characterization	Comments	
13	I57AV-27-BO3	12-7	1:30	S	✓	✓			✓		✓	✓	✓	✓		0-3.2'	
14	I57AV-26-BO6	12-7	1:45	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
15	I57AV-28-BO5	12-7	2:00	S			✓	✓	✓		✓	✓	✓	✓		0-2.50'	
16	I57AV-28-BO1	12-7	2:15	S			✓	✓	✓		✓	✓	✓	✓		0-2.5'	
17	I57AV-28-BO2	12-7	2:30	S			✓	✓	✓		✓	✓	✓	✓		0-2.5'	
18	I57AV-28-BO2WL	12-7	2:45	S									✓	✓	✓	0-2.5'	
19	I57AV-26-BO7	12-7	3:00	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
20	I57AV-26-BO5	12-7	3:15	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
21	I57AV-26-BO4	12-7	3:45	S			✓	✓	✓		✓	✓	✓	✓		0-4.25'	
22	I57AV-27-BO2	12-7	3:30	S	✓	✓			✓		✓	✓	✓	✓		0-3.2'	
23	I57AV-27-BO1	12-7	3:50	S	✓	✓			✓		✓	✓	✓	✓		0-3.2'	
24	I57AV-27-BO1WL	12-7	3:50	S									✓	✓	✓	0-3.2'	
Relinquished by: <u>Chad J. White</u>		Date/Time: <u>12/11/11 4:45pm</u>		Received by: <u>Richard Wright</u>		Date/Time: <u>12/11/11 1:45</u>											
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## **SILICONE BRIDGE JOINT SEALER**

Effective: August 1, 1995

Revised: October 15, 2011

Description. This work shall consist of furnishing all labor, equipment and materials necessary to install the silicone joint sealer as shown on the plans and as specified herein.

When specified, a polymer concrete nosing compatible with the silicone sealant as required by the sealant manufacturer shall be installed. The minimum dimensions for a polymer concrete nosing cross section are 1 1/2 in. (40 mm) deep by 3 1/2 in. (90 mm) wide. The polymer concrete shall be furnished and installed according to the Special Provision for "Polymer Concrete".

### Materials:

- (a) Silicone Joint Sealer. The silicone joint sealer shall cure in less than one week, and shall accommodate typical bridge movements and traffic within 8 hours. The sealant shall be self-leveling, cold applied, and two component. The sealant, upon curing, shall demonstrate resilience, flexibility and resistance to moisture and puncture. The sealant shall also demonstrate excellent adhesion to portland cement concrete, polymer concrete and steel over a range of temperatures from -30 to 130°F (-34 to 54°C) while maintaining a watertight seal. The sealant shall not contain any solvents or diluents that cause shrinkage or expansion during curing. In addition, acid cure sealants will not be permitted. The date of manufacture shall be provided with each lot. Materials twelve months old or older from the date of manufacture will not be accepted. The manufacturer shall certify that the sealant meets or exceeds the following test requirements before installation begins. The Department reserves the right to test representative samples from material proposed for use.

### Physical Properties:

#### Each component as supplied:

Specific Gravity (ASTM D 1475)	1.2-1.4
Extrusion Rate (ASTM C 1183)	200 - 600 grams per minute

Durometer Hardness, "00" (ASTM C 661) (32°F and 77 ± 3°F (0° and 25°C ± 1°C))	40-80
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Accelerated Weathering (ASTM C 793)	No chalking, cracking or bond loss after 5,000 hours.
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#### After Mixing:

Tack Free Time (ASTM C 679)	60 minutes max.
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<u>Upon Complete Cure:</u> (ASTM D 5329)	
Joint Elongation (Tensile Adhesion)	600% min
Joint Modulus	3-15 psi (21-103 kPa) @ 100% elongation

<sup>1</sup>Modified; Sample cured 7 days at 77 ± 2°F (25±1°C) 50 ± 5% relative humidity

- (b) Backer Rod. The backer rod shall conform to ASTM D 5249, Type 3.

### CONSTRUCTION REQUIREMENTS

General. The Contractor shall furnish the Engineer with the manufacturer's product information and installation procedures at least two weeks prior to installation.

When placing the silicone against concrete, the concrete surface shall be dry. For newly placed concrete, the concrete shall be fully cured and allowed to dry out a minimum of seven additional days prior to placement of the silicone. Cold, wet, inclement weather will require an extended drying time.

- (a) Surface Preparation:

- (1) Sandblasting. Both faces of the joint shall be sandblasted. A separate pass for each face for the full length of the joint and to the design depth of the center of the backer rod will be required. The nozzle shall be held at an angle of 30-90 degrees to the joint face, at a distance of 1 – 2 in. (25-50 mm).

For portland cement concrete and polymer concrete surfaces, sandblasting will be considered acceptable when both joint faces have a roughened surface with clean, exposed aggregate. The surface shall be free of foreign matter or plastic residue.

For steel surfaces, sandblasting will be considered acceptable when the steel surfaces have been cleaned to an SSPC-SP10 degree of cleanliness.

After sandblasting is completed, the joint shall be cleaned of debris using compressed air with a minimum pressure of 90 psi (620 kPa). The air compressor shall be equipped with traps to prevent the inclusion of water and/or oil in the air line.

(2) Priming. Priming shall be according to the manufacturer's instructions. This operation will immediately follow sandblasting and cleaning, and will only be permitted to proceed when the air and substrate temperatures are at least 41°F (5°C) and rising. Sandblasting, priming and sealing shall be performed on the same day. Surfaces to be primed shall be primed using a brush applied primer. For steel surfaces, when specified per the manufacturer's instructions, the primer shall be allowed to cure before proceeding. The minimum cure time shall be extended according to the manufacturer's recommendations when the substrate temperature is below 60°F (15°C).

The primer shall be supplied in original containers and shall have a "use-by" date clearly marked on them. Only primer, freshly poured from the original container into clean pails will be permitted. The primer shall be used immediately. All primer left in the pail after priming shall be disposed of and shall not be reused.

(b) Joint Installation:

- (1) Backer Rod Placement. The backer rod shall be installed to a uniform depth as specified on the plans and as recommended by the manufacturer. All splices in the backer rod shall be taped to prevent material loss during sealing. The backer rod shall be installed to within 1/8 in. (3 mm) tolerance prior to sealing.
- (2) Sealant Placement. The sealant shall be 1/2 in. (13 mm) thick within  $\pm 1/8$  in. (3 mm) tolerance as measured in the center of the joint at the thinnest point. The sealant thickness shall be measured during installation every  $\pm 2$  ft. ( $\pm 600$  mm). Adjustments to correct sealant thickness to within tolerance shall be made immediately before the sealant begins to set up. Sealant placement will only be permitted when the air and substrate temperatures are above 41°F (5°C) and 5°F (2.8°C) above the dew point. The joint shall be kept clean and dry during sealing. If the joint becomes wet and/or dirty during sealing, the operation shall stop until the joint has been restored to a clean and dry state.

Sealing shall be performed using a pneumatic gun approved by the sealant manufacturer. Prior to sealing, the gun shall be inspected to insure that it is in proper working order and that it is being operated at the recommended air pressure.

The gun shall demonstrate proper mixing action before sealant is placed in the joint. All unmixed sealant found in the joint shall be removed and replaced.

After the Engineer has determined that the pneumatic gun is functioning properly, the joint shall be sealed to the thickness and depth as shown on the plans. The sealant shall achieve initial set before opening the joint to traffic.

End of seal treatment at vertical faces of curbs, sidewalks or parapets shall be as recommended by the manufacturer and as shown on the plans.



Sealant placed incorrectly shall be removed and replaced by the Contractor.

- (3) Field Testing. A minimum of one joint per bridge per joint configuration will be tested by the Engineer by performing a "Pull Test". The sealant shall cure for a minimum of 24 hours before testing. The locations for the tests will be determined by the Engineer. The tests will be performed per the manufacturer's instructions. As part of the test, the depth and thickness of the sealant will be verified. All joint system installations failing to meet the specifications shall be removed and replaced, by the Contractor, to the satisfaction of the Engineer. In addition, the Pull Test is a destructive test; the Contractor shall repair the joint after completion of the test per the manufacturer's instructions.

Method of Measurement. The installed joint sealer will be measured in feet (meters) along the centerline of the joint.

Basis of Payment. The silicone joint sealer measured as specified will be paid for at the contract unit price per foot (meter) for SILICONE JOINT SEALER, of the size specified. When a polymer concrete nosing is specified it shall not be included in this item but will be paid for according to the Special Provision for "Polymer Concrete".

#### **DRIVEN SOLDIER PILE RETAINING WALL**

Effective: November 13, 2002

Revised: August 17, 2012

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 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 Section 1019.

- (c) Timber Lagging. The minimum tabulated unit stress in bending ( $F_b$ ), used for the design of the timber lagging, shall be 1000 psi (6.9 MPa) unless otherwise specified on the plans. When treated timber lagging is specified on the plans, the method of treatment shall be according to Article 1007.12. All timber shall meet the inspection requirements of Article 1007.01.
- (d) Precast Concrete Lagging. Precast concrete lagging shall be according to Section 504 of the Standard Specifications, except as modified herein. Unless specified otherwise, precast concrete lagging surfaces exposed to view in the completed wall shall be finished according to Article 503.15. When specified on the plans, the exposed surface shall be finished with a concrete form liner approved by the Engineer. The back face of the panel shall be roughly screeded to eliminate open pockets of aggregate and surface distortions in excess of 1/4 in. Reinforcement for precast concrete lagging shall be epoxy coated. Lifting inserts shall have a total minimum design capacity based on yield strength of 4 times the dead load calculated for the width of lagging used. Fabric bearing pads, when specified on the plans, shall meet the requirements of Section 1082. Threaded inserts, or other accessories, cast into the precast concrete lagging shall be galvanized according to AASHTO M111 or M232 as applicable.

Construction Requirements. The Contractor shall satisfy the following requirements:

- (a) Soldier Pile Fabrication and Placement. The soldier pile is defined as the structural steel section(s) shown on the plans as well as any connecting plates used to join multiple sections. The types of soldier piles shall be defined as HP, W Sections, or Built-Up Sections. Cleaning and painting of all steel components, when specified, shall be as shown on the plans and accomplished according to Section 506. This work will not be paid for separately, but shall be considered included in the cost of Furnishing Soldier Piles of the type specified.
- The soldier pile shall be shop fabricated such that no field welding is required. Piles shall be supplied and driven without splices unless approved by the Engineer. Soldier piles furnished with extra length shall be driven to the required tip elevation and cut to satisfy the top of pile elevation or driven past the required tip elevation to avoid cutting. Standard vibratory or impact hammers may be used to install the soldier piles. The Contractor shall use suitable bracing or pile leads to maintain the position of the soldier pile while driving such that the final location will satisfy the Construction Tolerances portion of this Special Provision. At the contractors option and at no extra cost to the department, the piles may be installed by setting them in predrilled excavations and backfilling with CLSM according to Section 593. The drilling methods used to maintain the shaft excavation side wall stability during the various phases of shaft excavation and concrete placement, must be appropriate for the site conditions encountered.
- (b) Obstructions. Obstructions shall be defined as any object (such as but not limited to, boulders, logs, old foundations, etc.) that cannot be penetrated with normal pile driving procedures, but requires special augers, tooling, core barrels or rock augers to remove the obstruction. When obstructions are encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to core, break up, push aside, or remove the obstruction.

- (c) Construction Tolerances. The soldier piles shall be driven to satisfy the following tolerances:
- (1) The center of the soldier pile shall be within 1 1/2 in. (38 mm) of plan station and 1/2 in. (13 mm) offset at the top of the pile.
  - (2) The out of vertical plumbness of the soldier pile shall not exceed 0.83 percent.
  - (3) The top of the soldier pile shall be within  $\pm 1$  in. ( $\pm 25$  mm) of the plan elevation.
- (d) Timber Lagging. Timber lagging, when required by the plans, installed below the original ground surface, shall be placed from the top down as the excavation proceeds. Lagging shown above grade shall be installed and backfilled against prior to installing any permanent facing to minimize post construction deflections. Over-excavation required to place the timber lagging behind the flanges of the soldier piles shall be the minimum necessary to install the lagging. Any voids produced behind the lagging shall be filled with porous granular embankment at the Contractors expense. When the plans require the Contractor to design the timber lagging, the design shall be based on established practices published in FHWA or AASHTO documents considering lateral earth pressure, construction loading, traffic surcharges and the lagging span length(s). The nominal thickness of the lagging selected shall not be less than 3 in. (75 mm) and shall satisfy the minimum tabulated unit stress in bending (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) Precast Concrete Lagging. Precast concrete 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 precast 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 Contractor's expense. When the plans require the Contractor to design the precast concrete 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 Contractor shall be responsible for the successful performance of the lagging system until the permanent concrete facing, when specified on the plans, is installed. The precast concrete lagging shall be reinforced with a minimum of 0.31 square inches/foot (655 Sq. mm/meter) of horizontal and vertical reinforcement per unit width of lagging with a minimum thickness of 3 in. (75 mm). When precast concrete lagging is exposed to view in the completed wall, shop drawings for the lagging shall be submitted according to Article 1042.03(b) and Article 105.04 of the Standard Specifications. The supplier selected by the Contractor shall submit complete design calculations and shop drawings, prepared and sealed by an Illinois Licensed Structural Engineer, for approval by the Engineer.

- (f) 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.
- (g) 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 lagging with the pervious (fabric) side of the drain installed to face the lagging. 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 lagging is installed. The wall drain shall be placed in sections and spliced, or kept on a continuous roll, so that as each piece of lagging 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 and precast 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 lagging, for each bay of 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. Precast concrete lagging will be paid for at the contract unit price per square foot (square meter) for PRECAST CONCRETE LAGGING as detailed on the plans.

Obstruction mitigation shall be paid for according to Article 109.04.

**GRANULAR BACKFILL FOR STRUCTURES**

Effective: April 19, 2012  
Revised: October 30, 2012

Revise Section 586 of the Standard Specifications to read:

**SECTION 586. GRANULAR BACKFILL FOR STRUCTURES**

**586.01 Description.** This work shall consist of furnishing, transporting and placing granular backfill for abutment structures.

**586.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Fine Aggregate.....	1003.04
(b) Coarse Aggregates .....	1004.05

**CONSTRUCTION REQUIREMENTS**

**586.03 General.** This work shall be done according to Article 502.10 except as modified below. The backfill volume shall be backfilled, with granular material as specified in Article 586.02, to the required elevation as shown in the contract plans. The backfill volume shall be placed in convenient lifts for the full width to be backfilled. Unless otherwise specified in the contract plans, mechanical compaction will not be required. A deposit of gravel or crushed stone placed behind drain holes shall not be required. All drains not covered by geocomposite wall drains or other devices to prevent loss of backfill material shall be covered by sufficient filter fabric material meeting the requirements of Section 1080 and Section 282 with either 6 or 8 oz/sq yd (200 or 270 g/sq m) material allowed, with free edges overlapping the drain hole by at least 12 in. (300 mm) in all directions.

The granular backfill shall be brought to the finished grade as shown in the contract plans. When concrete is to be cast on top of the granular backfill, the Contractor, subject to approval of the Engineer, may prepare the top surface of the fill to receive the concrete as he/she deems necessary for satisfactory placement at no additional cost to the Department.

**586.04 Method of Measurement.** This work will be measured for payment as follows.

- (a) Contract Quantities. The requirements for the use of contract quantities shall conform to Article 202.07(a).
- (b) Measured Quantities. This work will be measured for payment in place and the volume computed in cubic yards (cubic meters). The volume will be determined by the method of average end areas behind the abutment.

**586.05 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) for GRANULAR BACKFILL FOR STRUCTURES.

**WEEP HOLE DRAINS FOR ABUTMENTS, WINGWALLS, RETAINING WALLS AND CULVERTS**

Effective: April 19, 2012

Revised: October 22, 2013

Delete the last paragraphs of Articles 205.05 and 502.10 and replace with the following.

“If a geocomposite wall drain according to Section 591 is not specified, a prefabricated geocomposite strip drain according to Section 1040.07 shall be placed at the back of each drain hole. The strip drain shall be 24 inches (600 mm) wide and 48 inches (1.220 m) tall. The strip drain shall be centered over the drain hole with the bottom located 12 inches (300 mm) below the bottom of the drain hole. All form boards or other obstructions shall be removed from the drain holes before placing any geocomposite strip drain.”

Revise the last sentence of the first paragraph of Article 503.11 to read as follows.

“Drain holes shall be covered to prevent the leakage of backfill material according to Article 502.10.”

Revise the title of Article 1040.07 to Geocomposite Wall Drains and Strip Drains.

**AUTOMATED FLAGGER ASSISTANCE DEVICES (BDE)**

Effective: January 1, 2008

Description. This work shall consist of furnishing and operating automated flagger assistance devices (AFADs) as part of the work zone traffic control and protection for two-lane highways where two-way traffic is maintained over one lane of pavement. Use of these devices shall be at the option of the Contractor.

Equipment. AFADs shall be according to the FHWA memorandum, “MUTCD - Revised Interim Approval for the use of Automated Flagger Assistance Devices in Temporary Traffic Control Zones (IA-4R)”, dated January 28, 2005. The devices shall be mounted on a trailer or a moveable cart and shall meet the requirements of NCHRP 350, Category 4.

The AFAD shall be the Stop/Slow type. This device uses remotely controlled “STOP” and “SLOW” signs to alternately control right-of-way.

Signs for the AFAD shall be according to Article 701.03 of the Standard Specifications and the MUTCD. The signs shall be 24 x 24 in. (600 x 600 mm) having an octagon shaped "STOP" sign on one side and a diamond shaped "SLOW" sign on the opposite side. The letters on the signs shall be 8 in. (200 mm) high. If the "STOP" sign has louvers, the full sign face shall be visible at a distance of 50 ft (15 m) and greater.

The signs shall be supplemented with one of the following types of lights.

- (a) Flashing Lights. When flashing lights are used, white or red flashing lights shall be mounted within the "STOP" sign face and white or yellow flashing lights within the "SLOW" sign face.
- (b) Stop and Warning Beacons. When beacons are used, a stop beacon shall be mounted 24 in. (600 mm) or less above the "STOP" sign face and a warning beacon mounted 24 in. (600 mm) or less above, below, or to the side of the "SLOW" sign face. As an option, a Type B warning light may be used in lieu of the warning beacon.

A "WAIT ON STOP" sign shall be placed on the right hand side of the roadway at a point where drivers are expected to stop. The sign shall be 24 x 30 in. (600 x 750 mm) with a black legend and border on a white background. The letters shall be at least 6 in. (150 mm) high.

This device may include a gate arm or mast arm that descends to a horizontal position when the "STOP" sign is displayed and rises to a vertical position when the "SLOW" sign is displayed. When included, the end of the arm shall reach at least to the center of the lane being controlled. The arm shall have alternating red and white retroreflective stripes, on both sides, sloping downward at 45 degrees toward the side on which traffic will pass. The stripes shall be 6 in. (150 mm) in width and at least 2 in. (50 mm) in height.

Flagging Requirements. Flaggers and flagging requirements shall be according to Article 701.13 of the Standard Specifications and the following.

AFADs shall be placed at each end of the traffic control, where a flagger is shown on the plans. The flaggers shall be able to view the face of the AFAD and approaching traffic during operation.

To stop traffic, the "STOP" sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall descend to a horizontal position. To permit traffic to move, the "SLOW" sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall rise to a vertical position.

If used at night, the AFAD location shall be illuminated according to Section 701 of the Standard Specifications.

When not in use, AFADs will be considered nonoperating equipment and shall be stored according to Article 701.11 of the Standard Specifications.

Basis of Payment. This work will not be paid for separately but shall be considered as included in the cost of the various traffic control items included in the contract.

### **COARSE AGGREGATE IN BRIDGE APPROACH SLABS/FOOTINGS (BDE)**

Effective: April 1, 2012

Revised: April 1, 2013

Revise the third paragraph of Article 1004.01(b) of the Standard Specifications to read:

“Aggregates used in Class BS concrete (except when poured on subgrade), Class PS concrete, and Class PC concrete (bridge superstructure products only, excluding the approach slab) shall contain no more than two percent by weight (mass) of deleterious materials. Deleterious materials shall include substances whose disintegration is accompanied by an increase in volume which may cause spalling of the concrete.”

Revise the first sentence of the first paragraph of Article 1004.02(f) of the Standard Specifications to read:

“(f) Freeze-Thaw Rating. When coarse aggregate is used to produce portland cement concrete for base course, base course widening, pavement (including precast), driveway pavement, sidewalk, shoulders, curb, gutter, combination curb and gutter, median, paved ditch, concrete superstructures on subgrade such as bridge approach slabs (excluding precast), concrete structures on subgrade such as bridge approach footings, or their repair using concrete, the gradation permitted will be determined from the results of the Department’s Freeze-Thaw Test (Illinois Modified AASHTO T 161).”

### **COATED GALVANIZED STEEL CONDUIT (BDE)**

Effective: January 1, 2013

Revise Article 1088.01(a)(3) of the Standard Specifications to read:

“(3) Coated Galvanized Steel Conduit. The conduit prior to coating shall meet the requirements for rigid metal conduit and be manufactured according to NEMA Standard No. RN1.

The coating shall have the following characteristics.

Hardness	85+ Shore A Durometer
Dielectric Strength	400 V/mil @ 60 Hz
Aging	1,000 Hours Atlas Weatherometer
Brittleness Temperature	0 °F (-18 °C) when tested according to ASTM D 746
Elongation	200 percent



The exterior galvanized surfaces shall be coated with a primer before the coating to ensure a bond between the zinc substrate and the coating. The bond strength created shall be greater than the tensile strength of the plastic coating. The nominal thickness of the coating shall be 40 mils (1 mm). The coating shall pass the following bonding test.

Two parallel cuts 1/2 in. (13 mm) apart and 1 1/2 in. (38 mm) in length shall be made with a sharp knife along the longitudinal axis. A third cut shall be made perpendicular to and crossing the longitudinal cuts at one end. The knife shall then be worked under the coating for 1/2 in. (13 mm) to free the coating from the metal.

Using pliers, the freed tab shall be pulled with a force applied vertically and away from the conduit. The tab shall tear rather than cause any additional coating to separate from the substrate.

A two part urethane coating shall be applied to the interior of the conduit. The internal coating shall have a nominal thickness of 2 mils (50  $\mu$ m). The interior coating shall be applied in a manner so there are no runs, drips, or pinholes at any point. The coating shall not peel, flake, or chip off after a cut is made in the conduit or a scratch is made in the coating. The urethane interior coating applied shall afford sufficient flexibility to permit field bending without cracking or flaking of the interior coating.

All conduit fittings and couplings shall be as specified and recommended by the conduit manufacturer. All conduit fitting covers shall be furnished with stainless steel screws which have been encapsulated with a polyester material on the head to ensure maximum corrosion protection.”

## **CONCRETE BOX CULVERTS WITH SKEWS > 30 DEGREES AND DESIGN FILLS $\leq$ 5 FEET (BDE)**

Effective: April 1, 2012

Revise the second paragraph of Article 540.04 of the Standard Specifications to read:

“Unless otherwise noted on the plans, the Contractor shall have the option, when a cast-in-place concrete box culvert is specified, of constructing the box culvert using precast box culvert sections when the design cover is 6 in. (150 mm) minimum. The precast box culvert sections shall be designed for the same design cover shown on the plans for cast-in-place box culvert; shall be of equal or larger size opening, and shall satisfy the design requirements of ASTM C 1577.”

Revise the fourth paragraph of Article 540.06 of the Standard Specifications to read:

“The excavation and backfilling for precast concrete box culverts shall be according to the requirements of Section 502, except where the design fill is less than or equal to 8 ft (2.4 m), or the design fill is less than the clear span of the box. In these cases ASTM C 1577 requires a select granular backfill (porous granular material) over the box. If a porous granular backfill is required but is not detailed on the plans for the culvert(s), the Contractor shall have the option of either furnishing porous granular backfill where required to satisfy ASTM C 1577, or submitting an alternate design, sealed by an Illinois licensed Structural Engineer, which precludes the use of a porous granular backfill. In addition for all precast boxes a layer of porous granular material, at least 6 in. (150 mm) in thickness, shall be placed below the elevation of the bottom of the box. The porous granular material shall extend at least 2 ft (600 mm) beyond each side of the box. The precast concrete box culvert shall be laid according to the applicable requirements of Article 542.04(d). After installation, the interior and exterior joint gap between precast concrete box culvert sections shall be a maximum of 1 1/2 in. (38 mm).”

Add the following after the seventh paragraph of Article 540.06 of the Standard Specifications:

“Precast concrete box culverts with skews greater than 30 degrees and having design covers less than or equal to 5 feet are not covered by the standard design table shown in ASTM C 1577. The design table provided herein is provided to address this design range. The same notes, reinforcement configurations, clearances, and requirements of ASTM C 1577 apply to this special design table. A box designated 7 x 6 x 8 indicates a span of 7 ft, a rise of 6 ft, and top slab, bottom slab, walls and haunches of 8 in. unless otherwise noted on the tables.

3 ft by 2 ft by 4 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.168	0.900	0.295	0.096	0.269	0.168	0.853	0.144	
2<3	0.134	0.180	0.182	0.096					31
3-5	0.096	0.115	0.117	0.096					29

\*top slab 7 in., bottom slab 6.0 in.

3 ft by 3 ft by 4 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.168	0.956	0.326	0.096	0.290	0.168	0.849	0.144	
2<3	0.101	0.214	0.218	0.096					31
3-5	0.096	0.136	0.140	0.096					31

\*top slab 7.0 in., bottom slab 6.0 in.

4 ft by 2 ft by 5 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.204	0.790	0.262	0.120	0.268	0.180	0.846	0.144	
2<3	0.201	0.203	0.196	0.120					32
3-5	0.129	0.134	0.136	0.120					32

\*top slab 7.5 in., bottom slab 6.0 in.

4 ft by 3 ft by 5 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.180	0.876	0.303	0.120	0.305	0.180	0.831	0.144	
2<3	0.160	0.245	0.238	0.120					38
3-5	0.120	0.161	0.165	0.120					35

\*top slab 7.5 in., bottom slab 6.0 in.

4 ft by 4 ft by 5 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.180	0.927	0.334	0.120	0.327	0.180	0.822	0.144	
2<3	0.130	0.277	0.270	0.120					38
3-5	0.120	0.181	0.188	0.120					38

\*top slab 7.5 in., bottom slab 6.0 in.

5 ft by 3 ft by 6 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.197	0.682	0.269	0.144	0.280	0.192	0.705	0.168	
2<3	0.206	0.259	0.246	0.144					37
3-5	0.144	0.180	0.179	0.144					35

\*top slab 8.0 in., bottom slab 7.0 in.

5 ft by 4 ft by 6 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.192	0.735	0.299	0.144	0.307	0.192	0.693	0.168	
2<3	0.180	0.294	0.282	0.144					46
3-5	0.144	0.204	0.205	0.144					40

\*top slab 8.0 in., bottom slab 7.0 in.

5 ft by 5 ft by 6 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.192	0.774	0.324	0.144	0.327	0.192	0.685	0.168	
2<3	0.155	0.322	0.312	0.144					45
3-5	0.144	0.224	0.228	0.144					45

\*top slab 8.0 in., bottom slab 7.0 in.

6 ft by 3 ft by 7 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.270	0.566	0.257	0.168	0.263	0.192	0.575	0.168	
2<3	0.260	0.269	0.273	0.168					41
3-5	0.186	0.192	0.197	0.168					39

\*top slab 8.0 in.

6 ft by 4 ft by 7 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.245	0.617	0.297	0.168	0.293	0.192	0.565	0.168	
2<3	0.225	0.305	0.313	0.168					42
3-5	0.168	0.220	0.227	0.168					41

\*top slab 8.0 in.

6 ft by 5 ft by 7 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in. / ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.226	0.657	0.331	0.168	0.317	0.192	0.551	0.168	
2<3	0.198	0.338	0.348	0.168					59
3-5	0.168	0.242	0.252	0.168					48

\*top slab 8.0 in.

6 ft by 6 ft by 7 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2*	0.208	0.692	0.363	0.168	0.337	0.192	0.540	0.168	
2<3	0.176	0.364	0.379	0.168					52
3-5	0.168	0.261	0.275	0.168					52

\*top slab 8.0 in.

7 ft by 4 ft by 8 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.339	0.599	0.372	0.192	0.271	0.192	0.697	0.192	
2<3	0.287	0.335	0.342	0.192					44
3-5	0.206	0.241	0.248	0.192					42

7 ft by 5 ft by 8 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.317	0.637	0.417	0.192	0.293	0.192	0.684	0.192	
2<3	0.256	0.370	0.381	0.192					49
3-5	0.192	0.266	0.276	0.192					46

7 ft by 6 ft by 8 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.296	0.672	0.458	0.192	0.312	0.192	0.658	0.192	
2<3	0.230	0.401	0.416	0.192					59
3-5	0.192	0.288	0.302	0.192					55

7 ft by 7 ft by 8 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.276	0.703	0.496	0.192	0.330	0.192	0.653	0.192	
2<3	0.210	0.428	0.447	0.192					59
3-5	0.192	0.307	0.326	0.192					59

8 ft by 4 ft by 8 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.397	0.510	0.400	0.192	0.283	0.192	0.568	0.192	
2<3	0.399	0.415	0.423	0.192					45
3-5	0.285	0.298	0.306	0.192					45

8 ft by 5 ft by 8 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.368	0.555	0.446	0.192	0.305	0.192	0.559	0.192	
2<3	0.360	0.458	0.470	0.192					48
3-5	0.259	0.328	0.340	0.192					45



8 ft by 6 ft by 8 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.342	0.596	0.488	0.192	0.325	0.192	0.556	0.192	
2<3	0.328	0.496	0.512	0.192					56
3-5	0.237	0.355	0.371	0.192					50

8 ft by 7 ft by 8 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.319	0.633	0.527	0.192	0.343	0.192	0.555	0.192	
2<3	0.301	0.529	0.551	0.192					65
3-5	0.219	0.379	0.399	0.192					61

8 ft by 8 ft by 8 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.297	0.668	0.565	0.192	0.360	0.192	0.531	0.192	
2<3	0.280	0.560	0.587	0.192					65
3-5	0.204	0.400	0.427	0.192					65

9 ft by 5 ft by 9 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.361	0.411	0.416	0.216	0.275	0.216	0.465	0.216	
2<3	0.425	0.484	0.496	0.216					49
3-5	0.306	0.348	0.360	0.216					49

9 ft by 6 ft by 9 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in. / ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.335	0.439	0.455	0.216	0.294	0.216	0.467	0.216	
2<3	0.390	0.524	0.541	0.216					55
3-5	0.282	0.376	0.393	0.216					52

9 ft by 7 ft by 9 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in. / ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.313	0.464	0.491	0.216	0.311	0.216	0.453	0.216	
2<3	0.360	0.561	0.583	0.216					64
3-5	0.262	0.402	0.423	0.216					58

9 ft by 8 ft by 9 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.286	0.488	0.514	0.216	0.327	0.216	0.454	0.216	
2<3	0.336	0.594	0.621	0.216					72
3-5	0.244	0.426	0.453	0.216					73

9 ft by 9 ft by 9 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.274	0.511	0.557	0.216	0.342	0.216	0.452	0.216	
2<3	0.316	0.625	0.659	0.216					72
3-5	0.231	0.448	0.481	0.216					72

10 ft by 5 ft by 10 in.									
Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								
	As1	As2	As3	As4	As5	As6	As7	As8	"M", in.
0<2	0.370	0.393	0.392	0.240	0.263	0.240	0.240	0.240	
2<3	0.492	0.509	0.522	0.240					52
3-5	0.354	0.366	0.379	0.240					52

10 ft by 6 ft by 10 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.348	0.420	0.432	0.240	0.282	0.240	0.418	0.240	
2<3	0.455	0.552	0.570	0.240					56
3-5	0.329	0.397	0.414	0.240					52

10 ft by 7 ft by 10 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.321	0.445	0.463	0.240	0.298	0.240	0.240	0.240	
2<3	0.423	0.591	0.614	0.240					59
3-5	0.307	0.425	0.447	0.240					56

10 ft by 8 ft by 10 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in. / ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.301	0.469	0.496	0.240	0.314	0.240	0.240	0.240	
2<3	0.394	0.627	0.655	0.240					72
3-5	0.288	0.451	0.478	0.240					66

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10 ft by 9 ft by 10 in.

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Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.284	0.492	0.527	0.240	0.329	0.240	0.240	0.240	
2<3	0.371	0.660	0.694	0.240					79
3-5	0.272	0.475	0.508	0.240					85

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10 ft by 10 ft by 10 in.

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Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.272	0.514	0.559	0.240	0.344	0.240	0.240	0.240	
2<3	0.353	0.691	0.732	0.240					79
3-5	0.259	0.497	0.537	0.240					79

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11 ft by 4 ft by 11 in.

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Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.414	0.341	0.333	0.264	0.264	0.264	0.264	0.264	
2<3	0.609	0.481	0.491	0.264					60
3-5	0.436	0.348	0.357	0.264					56

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11 ft by 6 ft by 11 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.356	0.399	0.407	0.264	0.265	0.264	0.264	0.264	
2<3	0.521	0.580	0.597	0.264					56
3-5	0.377	0.418	0.435	0.264					56

11 ft by 8 ft by 11 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.314	0.449	0.471	0.264	0.298	0.264	0.264	0.264	
2<3	0.457	0.659	0.687	0.264					67
3-5	0.333	0.475	0.502	0.264					63

11 ft by 10 ft by 11 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.285	0.494	0.532	0.264	0.328	0.264	0.264	0.264	
2<3	0.409	0.727	0.769	0.264					86
3-5	0.300	0.524	0.565	0.264					86

11 ft by 11 ft by 11 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.276	0.516	0.562	0.264	0.342	0.264	0.264	0.264	
2<3	0.391	0.758	0.808	0.264					86
3-5	0.289	0.548	0.596	0.264					86

12 ft by 4 ft by 12 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.426	0.329	0.316	0.288	0.288	0.288	0.321	0.288	
2<3	0.682	0.503	0.512	0.288					64
3-5	0.489	0.364	0.373	0.288					60

12 ft by 6 ft by 12 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.367	0.385	0.387	0.288	0.288	0.288	0.320	0.288	
2<3	0.590	0.606	0.624	0.288					60
3-5	0.427	0.438	0.456	0.288					56

12 ft by 8 ft by 12 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.326	0.435	0.449	0.288	0.288	0.288	0.288	0.288	
2<3	0.521	0.690	0.719	0.288					67
3-5	0.381	0.499	0.527	0.288					64

12 ft by 10 ft by 12 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.298	0.481	0.507	0.288	0.305	0.288	0.288	0.288	
2<3	0.467	0.762	0.804	0.288					93
3-5	0.344	0.551	0.592	0.288					79

12 ft by 12 ft by 12 in.

Design Earth Cover, ft.	Circumferential Reinforcement Areas, sq in./ ft.								"M", in.
	As1	As2	As3	As4	As5	As6	As7	As8	
0<2	0.288	0.525	0.566	0.288	0.333	0.288	0.288	0.288	
2<3	0.431	0.827	0.886	0.288					93
3-5	0.320	0.599	0.656	0.288					93"



**CONCRETE BOX CULVERTS WITH SKEWS  $\leq$  30 DEGREES REGARDLESS OF DESIGN FILL AND SKEWS  $>$  30 DEGREES WITH DESIGN FILLS  $>$  5 FEET (BDE)**

Effective: April 1, 2012

Revise the second paragraph of Article 540.04 of the Standard Specifications to read:

“Unless otherwise noted on the plans, the Contractor shall have the option, when a cast-in-place concrete box culvert is specified, of constructing the box culvert using precast box culvert sections when the design cover is 6 in. (150 mm) minimum. The precast box culvert sections shall be designed for the same design cover shown on the plans for cast-in-place box culvert; shall be of equal or larger size opening, and shall satisfy the design requirements of ASTM C 1577.”

Revise the fourth paragraph of Article 540.06 of the Standard Specifications to read:

“The excavation and backfilling for precast concrete box culverts shall be according to the requirements of Section 502, except where the design fill is less than or equal to 8 ft (2.4 m), or the design fill is less than the clear span of the box. In these cases ASTM C 1577 requires a select granular backfill (porous granular material) over the box. If a porous granular backfill is required but is not detailed on the plans for the culvert(s), the Contractor shall have the option of either furnishing porous granular backfill where required to satisfy ASTM C 1577, or submitting an alternate design, sealed by an Illinois licensed Structural Engineer, which precludes the use of a porous granular backfill. In addition for all precast boxes a layer of porous granular material, at least 6 in. (150 mm) in thickness, shall be placed below the elevation of the bottom of the box. The porous granular material shall extend at least 2 ft (600 mm) beyond each side of the box. The precast concrete box culvert shall be laid according to the applicable requirements of Article 542.04(d). After installation, the interior and exterior joint gap between precast concrete box culvert sections shall be a maximum of 1 1/2 in. (38 mm).”

**CONCRETE END SECTIONS FOR PIPE CULVERTS (BDE)**

Effective: January 1, 2013

Description. This work shall consist of constructing cast-in-place concrete and precast concrete end sections for pipe culverts. These end sections are shown on the plans as Highway Standard 542001, 542006, 542011, or 542016. This work shall be according to Section 542 of the Standard Specifications except as modified herein.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications.

Item	Article/Section
(a) Portland Cement Concrete (Note 1) .....	1020
(b) Precast Concrete End Sections (Note 2)	
(c) Coarse Aggregate (Note 3) .....	1004.05
(d) Structural Steel (Note 4) .....	1006.04
(e) Anchor Bolts and Rods (Note 5) .....	1006.09
(f) Reinforcement Bars .....	1006.10(a)
(g) Nonshrink Grout .....	1024.02
(h) Chemical Adhesive Resin System .....	1027
(i) Mastic Joint Sealer for Pipe .....	1055
(j) Hand Hole Plugs .....	1042.16

Note 1. Cast-in-place concrete end sections shall be Class SI, except the 14 day mix design shall have a compressive strength of 5000 psi (34,500 kPa) or a flexural strength of (800 psi) 5500 kPa and a minimum cement factor of 6.65 cwt/cu yd (395 kg/cu m).

Note 2. Precast concrete end sections shall be according to Articles 1042.02 and 1042.03(b)(c)(d)(e) of the Standard Specifications. The concrete shall be Class PC according to Section 1020, and shall have a minimum compressive strength of 5000 psi (34,000 kPa) at 28 days.

Joints between precast sections shall be produced with reinforced tongue and groove ends according to the requirements of ASTM C 1577.

Note 3. The granular bedding placed below a precast concrete end section shall be gradation CA 6, CA 9, CA 10, CA 12, CA 17, CA 18, or CA 19.

Note 4. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

Note 5. The anchor rods for the culvert ties shall be according to the requirements of ASTM F 1554, Grade 105 (Grade 725).

## CONSTRUCTION REQUIREMENTS

The concrete end sections may be precast or cast-in-place construction. Toe walls shall be either precast or cast-in-place, and shall be in proper position and backfilled according to the applicable paragraphs of Article 502.10 of the Standard Specifications prior to the installation of the concrete end sections. If soil conditions permit, cast-in-place toe walls may be poured directly against the soil. When poured directly against the soil, the clear cover of the sides and bottom of the toe wall shall be increased to 3 in. (75 mm) by increasing the thickness of the toe wall.

- (a) Cast-In-Place Concrete End Sections. Cast-in-place concrete end sections shall be constructed according to the requirements of Section 503 of the Standard Specifications and as shown on the plans.
- (b) Precast Concrete End Sections. When the concrete end sections will be precast, shop drawings detailing the slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval.

The excavation and backfilling for precast concrete end sections shall be according to the requirements of Section 502 of the Standard Specifications, except a layer of granular bedding at least 6 in. (150 mm) in thickness shall be placed below the elevation of the bottom of the end section. The granular bedding shall extend a minimum of 2 ft (600 mm) beyond each side of the end section.

Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 2/3 turn on one of the nuts. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut.

Method of Measurement. This work will be measured for payment as each, with each end of each culvert being one each.

Basis of Payment. This work will be paid for at the contract unit price per each for CONCRETE END SECTION, STANDARD 542001; CONCRETE END SECTION, STANDARD 542006; CONCRETE END SECTION, 542011; or CONCRETE END SECTION, 542016, of the pipe diameter and slope specified.

## CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: January 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment's respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 <sup>1/</sup>	600-749	2002
	750 and up	2006
June 1, 2011 <sup>2/</sup>	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 <sup>2/</sup>	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

### **Diesel Retrofit Deficiency Deduction**

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

## **DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)**

Effective: September 1, 2000

Revised: August 2, 2011

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform **24.00%** of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal: or
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's website at [www.dot.il.gov](http://www.dot.il.gov).

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement. The failure of the bidder to comply will render the bid not responsive.

- (a) The bidder shall submit a Disadvantaged Business Utilization Plan on Department forms SBE 2025 and 2026 with the bid.
- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.

- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:
- (1) The names and addresses of DBE firms that will participate in the contract;
  - (2) A description, including pay item numbers, of the work each DBE will perform;
  - (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
  - (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
  - (5) if the bidder is a joint venture comprised of DBE companies and non-DBE companies, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
  - (6) If the contract goal is not met, evidence of good faith efforts.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that enough DBE participation has been obtained or document that good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work performance to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts, in other words, efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.



- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.
- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
  - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
  - (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
  - (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
    - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable.

- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
  - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
  - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
  - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons for the determination.

- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217)785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for consideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.

(d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:

- (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
- (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.

(e) DBE as a material supplier:

- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

**CONTRACT COMPLIANCE.** Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement.

- (a) **NO AMENDMENT.** No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217)785-4611. Telefax number (217)785-1524.

- (b) TERMINATION OR REPLACEMENT. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in the Special Provision.
- (c) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, then a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) That the replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
  - (2) That the DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
  - (3) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the prime Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable state law.
- (6) You have determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;

- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated, or fails to complete its work on the Contract for any reason the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal.

- (f) PAYMENT RECORDS. The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than thirty calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Regional Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the BDE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department.

**GLARE SCREEN (BDE)**

Effective: January 1, 2014

Replace Section 638 of the Standard Specifications with the following:

**“SECTION 638. GLARE SCREEN**

**638.01 Description.** This work shall consist of furnishing and constructing permanent glare screens, consisting of concrete glare screens or a modular glare screen system, mounted on concrete medians; or furnishing, installing, maintaining, and removing a temporary modular glare screen system on top of temporary concrete barriers.

**638.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Portland Cement Concrete (Note 1) .....	1020
(b) Reinforcement Bars .....	1006.10
(c) Modular Glare Screen System .....	1085
(d) Nonshrink Grout .....	1024.02
(e) Chemical Adhesive .....	1027

Note 1. Concrete shall be Class SI concrete.

**CONSTRUCTION REQUIREMENTS**

**638.03 Modular Glare Screen System.** The modular glare screen system shall be installed according to the details shown on the plans and according to the manufacturer's specifications. The same size and type of modules shall be used throughout the project. The modules shall be installed along the top of the concrete barrier, and centered across the width. The maximum length and width of the base rails or modules shall not exceed the dimensions of the top of the individual concrete barrier sections. Base rails or modules shall be placed true to line and shall be firmly attached to the concrete barrier with the type, size, and number of anchor studs, bolts, or self-tapping screws as specified by the manufacturer. Anchor studs, bolts, or self-tapping screws shall be at least 3 in. (75 mm) from contraction, expansion, or construction joints in the barrier. The base rails or modules shall not extend over the joints between the concrete barrier sections. The base rails or modules shall be installed so the combination of glare screen blade width and spacing provide for a minimum 22 degree sight cut-off angle or as shown on the plans.



The Contractor shall load test four percent of all anchor studs, bolts, or self-tapping screws in the presence of the Engineer. The equipment and method used shall meet the approval of the Engineer. The minimum test load shall be 4000 lb (18 kN) in direct pull. For each anchor that fails the test requirement, two more anchor studs, bolts, or self-tapping screws picked by the Engineer, shall be tested. Each anchor stud, bolt, or self-tapping screw that fails to meet the test requirement shall be reset, or removed and the hole drilled deeper and reset, and retested until it meets the test requirements.

When the modules are used for temporary application, the Contractor shall be responsible for maintaining the modules or parts, and shall replace damaged blades or modules with the same size and type as those used throughout the project.

All construction operations whether for permanent or temporary application shall be performed on one side of the concrete barrier. Any damage done to the concrete barrier by the Contractor's operation shall be repaired.

**638.04 Concrete Glare Screen.** Concrete glare screen shall be constructed according to the applicable portions of Section 637.

When concrete glare screen is constructed on an existing concrete barrier, the vertical reinforcement bars shall be anchored in place in drilled holes in the barrier with nonshrink grout or chemical adhesive. Joints in the concrete glare screen shall be a continuation of joints in the existing concrete barrier and shall be of the same configurations. In addition, if there is a crack in the barrier that is working as a joint, a joint shall be placed over it in the glare screen and the reinforcement shall be cut.

When concrete glare screen is constructed on new concrete barrier, it may be constructed integrally with the barrier. Joints in the glare screen shall be according to Article 637.08.

**638.05 Method of Measurement.** Glare screen modules will be measured for payment in feet (meters) in place, along the centerline of the modules.

Concrete glare screen will be measured for payment in feet (meters) in place, along the centerline of the concrete glare screen.

**638.06 Basis of Payment.** Glare screen modules will be paid for at the contract unit price per foot (meter) for MODULAR GLARE SCREEN SYSTEM, PERMANENT; and/or MODULAR GLARE SCREEN SYSTEM, TEMPORARY.

The work of constructing concrete glare screen will be paid for at the contract unit price per foot (meter) for CONCRETE GLARE SCREEN.”

Replace Section 1085 of the Standard Specifications with the following:

**“SECTION 1085. MODULAR GLARE SCREEN SYSTEM**

**1085.01 Description.** The modular glare screen system shall be according to the following.

(a) Glare Screen Blades. The glare screen blades shall be constructed of durable, impact resistant, polymeric material meeting the following requirements.

(1) Wall thickness of the blades shall be 0.10 in. (2.5 mm) minimum, except at corners where it shall be 0.06 in. (1.5 mm) minimum.

(2) Specific gravity of the blade walls shall be 0.89 minimum as determined by ASTM D 792.

(3) The blades shall be green in color.

(4) The blades shall withstand a sharp bend test (90 degree bend without mandrel) at 0 °F (-18 °C) without cracking.

(b) Base Plates and Rails. Base plates and rails shall be according to the following.

(1) Polymeric Base Plate and Rails. Polymeric base plate and rails shall meet the same specific gravity and tensile requirements as the glare screen blades.

(2) Metal Base Plates and Rails. Metal base plates and rails shall be according to ASTM A 36 (A 36M) and shall be galvanized according to AASHTO M 111 after fabrication.

(c) Anchor Studs, Bolts, or Self-Tapping Screws. Anchor studs, bolts, or self tapping screws, with nuts, flat washers, or lock washers, shall be as specified by the manufacturer and shall be galvanized or stainless steel according to Article 1006.29.”

**GRANULAR MATERIALS (BDE)**

Effective: November 1, 2012

Revise the title of Article 1003.04 of the Standard Specifications to read:

**“1003.04 Fine Aggregate for Bedding, Trench Backfill, Embankment, Porous Granular Backfill, Sand Backfill for Underdrains, and French Drains.”**

Revise Article 1003.04(c) of the Standard Specifications to read:

“(c) Gradation. The fine aggregate gradations for granular embankment, granular backfill, bedding, and trench backfill for pipe culverts and storm sewers shall be FA 1, FA 2, or FA 6 through FA 21.

The fine aggregate gradation for porous granular embankment, porous granular backfill, french drains, and sand backfill for underdrains shall be FA 1, FA 2, or FA 20, except the percent passing the No. 200 (75 µm) sieve shall be 2±2.”

Revise Article 1004.05(c) of the Standard Specifications to read:

“(c) Gradation. The coarse aggregate gradations shall be as follows.

Application	Gradation
Blotter	CA 15
Granular Embankment, Granular Backfill, Bedding, and Trench Backfill for Pipe Culverts and Storm Sewers	CA 6, CA 9, CA 10, CA 12, CA17, CA18, and CA 19
Porous Granular Embankment, Porous Granular Backfill, and French Drains	CA 7, CA 8, CA 11, CA 15, CA 16 and CA 18”

**GROOVING FOR RECESSED PAVEMENT MARKINGS (BDE)**

Effective: November 1, 2012

Revised: January 1, 2013

Description. This work shall consist of grooving the pavement surface in preparation for the application of recessed pavement markings.

Equipment. Equipment shall be according to the following.

- (a) Pavement Marking Tape Installations: The grooving equipment shall have a free-floating saw blade cutting head equipped with gang-stacked diamond saw blades. The diamond saw blades shall be of uniform wear and shall produce a smooth textured surface. Any ridges in the groove shall have a maximum height of 15 mils (0.38 mm).

- (b) Liquid Pavement Marking Installations: The grooving equipment shall be equipped with either a free-floating saw blade cutting head or a free-floating grinder cutting head configuration with diamond or carbide tipped cutters and shall produce an irregular textured surface.

### **CONSTRUCTION REQUIREMENTS**

General. The Contractor shall supply the Engineer with a copy of the pavement marking material manufacturer's recommendations for constructing a groove.

Pavement Grooving Methods. The grooves for recessed pavement markings shall be constructed using the following methods.

- (a) Wet Cutting Head Operation. When water is required or used to cool the cutting head, the groove shall be flushed with high pressure water immediately following the cut to avoid build up and hardening of slurry in the groove. The pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.
- (b) Dry Cutting Head Operation. When used on HMA pavements, the groove shall be vacuumed or cleaned by blasting with high-pressure air to remove loose aggregate, debris, and dust generated during the cutting operation. When used on PCC pavements, the groove shall be flushed with high pressure water or shot blasted to remove any PCC particles that may have become destabilized during the grooving process. If high pressure water is used, the pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

Pavement Grooving. Grooving shall not cause ravels, aggregate fractures, spalling or disturbance of the joints to the underlying surface of the pavement. Grooves shall be cut into the pavement prior to the application of the pavement marking material. Grooves shall be cut such that the width is 1 in. (25 mm) greater than the width of the pavement marking line as specified on the plans. Grooves for letters and symbols shall be cut in a square or rectangular shape so that the entire marking will fit within the limits of the grooved area. The position of the edge of the grooves shall be a minimum of 4 in. (100 mm) from the edge of all longitudinal joints. The depth of the groove shall not be less than the manufacturer's recommendations for the pavement marking material specified, but shall be installed to a minimum depth of 110 mils (2.79 mm) and a maximum depth of 200 mils (5.08 mm) for pavement marking tapes and a minimum depth of 40 mils (1.02 mm) and a maximum depth of 80 mils (2.03 mm) for liquid markings. The cutting head shall be operated at the appropriate speed in order to prevent undulation of the cutting head and grooving at an inconsistent depth.

At the start of grooving operations, a 50 ft (16.7 m) test section shall be installed and depth measurements shall be made at 10 ft (3.3 m) intervals within the test section. The individual depth measurements shall be within the allowable ranges according to this Article. If it is determined the test section has not been grooved at the appropriate depth or texture, adjustments shall be made to the cutting head and another 50 ft (16.7 m) test section shall be installed and checked. This process shall continue until the test section meets the requirements of this Article.

For new HMA pavements, grooves shall not be installed within 14 days of the placement of the final course of pavement.

Final Cleaning. Immediately prior to the application of the pavement marking material or primer sealer, the groove shall be cleaned with high-pressure air blast.

Method of Measurement. This work will be measured for payment in place, in feet (meter) for the groove width specified.

Grooving for letter, numbers and symbols will be measured in square feet (square meters).

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for GROOVING FOR RECESSED PAVEMENT MARKING of the groove width specified, and per square foot (square meter) for GROOVING FOR RECESSED PAVEMENT MARKING, LETTERS AND SYMBOLS.

The following shall only apply when preformed plastic pavement markings are to be recessed:

Add the following paragraph after the first paragraph of Article 780.07 of the Standard Specifications.

“The markings shall be capable of being applied in a grooved slot on new and existing portland cement concrete and HMA surfaces, by means of a pressure-sensitive, precoated adhesive, or liquid contact cement which shall be applied at the time of installation. A primer sealer shall be applied with a roller and shall cover and seal the entire bottom of the groove. The primer sealer shall be recommended by the manufacturer of the pavement marking material and shall be compatible with the material being used. The Contractor shall install the markings in the groove as soon as possible after the primer sealer cures according to the manufacturer’s recommendations. The markings placed in the groove shall be rolled and tamped into the groove with a roller or tamper cart cut to fit the groove and loaded with or weighing at least 200 lb (90kg). Vehicle tires shall not be used for tamping. The Contractor shall roll and tamp the material with a minimum of 6 passes to prevent easy removal or peeling.”

## **HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)**

Effective: January 1, 2010

Revised: April 1, 2012

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced ten feet apart longitudinally along the unconfined pavement edge and centered at the random density test location.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

"Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4%	91.0%
IL-9.5, IL-12.5	Ndesign ≥ 90	92.0 – 96.0%	90.0%
IL-9.5, IL-9.5L, IL-12.5	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0, IL-25.0	Ndesign ≥ 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L, IL-25.0	Ndesign < 90	93.0 – 97.4%	90.0%
SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%
All Other	Ndesign = 30	93.0 - 97.4%	90.0%”

**LRFD PIPE CULVERT BURIAL TABLES (BDE)**

Effective: November 1, 2013

Revise Article 542.02 of the Standard Specifications to read as follows:

“Item	Article/Section
(a) Corrugated Steel Pipe .....	1006.01
(b) Corrugated Steel Pipe Arch .....	1006.01
(c) Bituminous Coated Corrugated Steel Pipe .....	1006.01
(d) Bituminous Coated Corrugated Steel Pipe Arch .....	1006.01
(e) Zinc and Aramid Fiber Composite Coated Corrugated Steel Pipe .....	1006.01
(f) Aluminized Steel Type 2 Corrugated Pipe .....	1006.01
(g) Aluminized Steel Type 2 Corrugated Pipe Arch .....	1006.01
(h) Precoated Galvanized Corrugated Steel Pipe .....	1006.01
(i) Precoated Galvanized Corrugated Steel Pipe Arch .....	1006.01
(j) Corrugated Aluminum Alloy Pipe .....	1006.03
(k) Corrugated Aluminum Alloy Pipe Arch .....	1006.03
(l) Extra Strength Clay Pipe .....	1040.02
(m) Concrete Sewer, Storm Drain, and Culvert Pipe .....	1042
(n) Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe .....	1042
(o) Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe.....	1042
(p) Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe .....	1042
(q) Polyvinyl Chloride (PVC) Pipe .....	1040.03
(r) Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior .....	1040.03
(s) Corrugated Polypropylene (CPP) pipe with smooth Interior .....	1040.07
(t) Corrugated Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04
(u) Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04
(v) Rubber Gaskets and Preformed Flexible Joint Sealants for Concrete Pipe .....	1056
(w) Mastic Joint Sealer for Pipe .....	1055
(x) External Sealing Band .....	1057
(y) Fine Aggregate (Note 1) .....	1003.04
(z) Coarse Aggregate (Note 2) .....	1004.05
(aa) Packaged Rapid Hardening Mortar or Concrete .....	1018
(bb) Nonshrink Grout .....	1024.02
(cc) Reinforcement Bars and Welded Wire Fabric .....	1006.10
(dd) Handling Hole Plugs .....	1042.16

Note 1. The fine aggregate shall be moist.

Note 2. The coarse aggregate shall be wet.”



Revise the table for permitted materials in Article 542.03 of the Standard Specifications as follows:

Class	Materials
A	Rigid Pipes: Extra Strength Clay Pipe Concrete Sewer Storm Drain and Culvert Pipe, Class 3 Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
C	Rigid Pipes: Extra Strength Clay Pipe Concrete Sewer Storm Drain and Culvert Pipe, Class 3 Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe Flexible Pipes: Aluminized Steel Type 2 Corrugated Pipe Aluminized Steel Type 2 Corrugated Pipe Arch Precoated Galvanized Corrugated Steel Pipe Precoated Galvanized Corrugated Steel Pipe Arch Corrugated Aluminum Alloy Pipe Corrugated Aluminum Alloy Pipe Arch Polyvinyl Chloride (PVC) Pipe Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior Polyethylene (PE) Pipe with a Smooth Interior Corrugated Polypropylene (CPP) Pipe with Smooth Interior
D	Rigid Pipes: Extra Strength Clay Pipe Concrete Sewer Storm Drain and Culvert Pipe, Class 3 Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe Flexible Pipes: Corrugated Steel Pipe Corrugated Steel Pipe Arch Bituminous Coated Corrugated Steel Pipe Bituminous Coated Corrugated Steel Pipe Arch Zinc and Aramid Fiber Composite Coated Corrugated Steel Pipe Aluminized Steel Type 2 Corrugated Pipe Aluminized Steel Type 2 Corrugated Pipe Arch Precoated Galvanized Corrugated Steel Pipe Precoated Galvanized Corrugated Steel Pipe Arch Corrugated Aluminum Alloy Pipe Corrugated Aluminum Alloy Pipe Arch Polyvinyl Chloride (PVC) Pipe Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior Corrugated Polyethylene (PE) Pipe with a Smooth Interior Polyethylene (PE) Pipe with a Smooth Interior Corrugated Polypropylene (CPP) Pipe with Smooth Interior

Revise Articles 542.03(b) and (c) of the Standard Specifications to read:

- “(b) Extra strength clay pipe will only be permitted for pipe culverts Type 1, for 10 in., 12 in., 42 in. and 48 in. (250 mm, 300 mm, 1050 mm and 1200 mm), Types 2, up to and including 48 in. (1200 mm), Type 3, up to and including 18 in. (450 mm), Type 4 up to and including 10 in. (250 mm), for all pipe classes.
- (c) Concrete sewer, storm drain, and culvert pipe Class 3 will only be permitted for pipe culverts Type 1, up to and including 10 in (250 mm), Type 2, up to and including 30 in. (750 mm), Type 3, up to and including 15 in. (375 mm); Type 4, up to and including 10 in. (250 mm), for all pipe classes.”

Replace the pipe tables in Article 542.03 of the Standard Specifications with the following:

"Table IA: Classes of Reinforced Concrete Pipe for the Respective Diameters of Pipe and Fill Heights over the Top of the Pipe							
Nominal Diameter in.	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
	Fill Height: 3' and less 1' min cover	Fill Height: Greater than 3' not exceeding 10'	Fill Height: Greater than 10' not exceeding 15'	Fill Height: Greater than 15' not exceeding 20'	Fill Height: Greater than 20' not exceeding 25'	Fill Height: Greater than 25' not exceeding 30'	Fill Height: Greater than 30' not exceeding 35'
12	IV	II	III	IV	IV	V	V
15	IV	II	III	IV	IV	V	V
18	IV	II	III	IV	IV	V	V
21	III	II	III	IV	IV	V	V
24	III	II	III	IV	IV	V	V
30	IV	II	III	IV	IV	V	V
36	III	II	III	IV	IV	V	V
42	II	II	III	IV	IV	V	V
48	II	II	III	IV	IV	V	V
54	II	II	III	IV	IV	V	V
60	II	II	III	IV	IV	V	V
66	II	II	III	IV	IV	V	V
72	II	II	III	IV	V	V	V
78	II	II	III	IV	2020	2370	2730
84	II	II	III	IV	2020	2380	2740
90	II	III	III	1680	2030	2390	2750
96	II	III	III	1690	2040	2400	2750
102	II	III	IV	1700	2050	2410	2760
108	II	III	1360	1710	2060	2410	2770

Notes:

A number indicates the D-Load for the diameter and depth of fill and that a special design is required.

Design assumptions; Water filled pipe, Type 2 bedding and Class C Walls

Table IA: Classes of Reinforced Concrete Pipe  
 for the Respective Diameters of Pipe and Fill Heights over the Top of the Pipe  
 (Metric)

Nominal Diameter mm	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
	Fill Height: 1 m and less 0.3 m min cover	Fill Height: Greater than 1 m not exceeding 3 m	Fill Height: Greater than 3 m not exceeding 4.5 m	Fill Height: Greater than 4.5 m not exceeding 6 m	Fill Height: Greater than 6 m not exceeding 7.5 m	Fill Height: Greater than 7.5 m not exceeding 9 m	Fill Height: Greater than 9 m not exceeding 10.5 m
300	IV	II	III	IV	IV	V	V
375	IV	II	III	IV	IV	V	V
450	IV	II	III	IV	IV	V	V
525	III	II	III	IV	IV	V	V
600	III	II	III	IV	IV	V	V
750	IV	II	III	IV	IV	V	V
900	III	II	III	IV	IV	V	V
1050	II	II	III	IV	IV	V	V
1200	II	II	III	IV	IV	V	V
1350	II	II	III	IV	IV	V	V
1500	II	II	III	IV	IV	V	V
1650	II	II	III	IV	IV	V	V
1800	II	II	III	IV	V	V	V
1950	II	II	III	IV	100	110	130
2100	II	II	III	IV	100	110	130
2250	II	III	III	80	100	110	130
2400	II	III	III	80	100	110	130
2550	II	III	IV	80	100	120	130
2700	II	III	70	80	100	120	130

Notes:

A number indicates the D-Load for the diameter and depth of fill and that a special design is required.

Design assumptions; Water filled pipe, Type 2 bedding and Class C Walls

TABLE IB: THICKNESS OF CORRUGATED STEEL PIPE FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 2 2/3"x1/2", 3"x1" AND 5"x1" CORRUGATIONS																					
Nominal Diameter in.	Type 1			Type 2			Type 3			Type 4			Type 5			Type 6			Type 7		
	Fill Height:			Fill Height:			Fill Height:			Fill Height:			Fill Height:			Fill Height:			Fill Height:		
	3' and less 1' min. cover			Greater than 3' not exceeding 10'			Greater than 10' not exceeding 15'			Greater than 15' not exceeding 20'			Greater than 20' not exceeding 25'			Greater than 25' not exceeding 30'			Greater than 30' not exceeding 35'		
	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"
12*	0.109			0.079			0.079			0.079			0.079			0.079			0.079		
15	0.109			0.079			0.079			0.079			0.079			0.109			0.109		
18	0.109			0.079			0.079			0.079			0.109			0.109			0.109		
21	0.109			0.079			0.079			0.079			0.109			0.109			0.109		
24	0.109			0.079			0.079			0.109			0.109			0.109			0.109		
30	0.109			0.079			0.109			0.109			0.109			0.109			0.109		
36	0.109E			0.079			0.109			0.109			0.109			0.109			0.138E		
42	0.109	0.109	0.109	0.079	0.079	0.079	0.109	0.079	0.109	0.109	0.079	0.109	0.109	0.109	0.109	0.109E	0.109	0.109	0.138E	0.109	0.109
48	0.109	0.109	0.109	0.109	0.079	0.079	0.109	0.079	0.109	0.109	0.109	0.109	0.109	0.109	0.109	0.138E	0.109	0.109	0.138E	0.109	0.109
54	0.109	0.109	0.109	0.109	0.079	0.109	0.109	0.079	0.109	0.109	0.109	0.109	0.109	0.109	0.109	0.138E	0.109	0.109	0.168E	0.138	0.138
60	0.109	0.109	0.109	0.109	0.079	0.109	0.109	0.079	0.109	0.109	0.109	0.109	0.138	0.109	0.109	0.138E	0.109	0.138	0.168E	0.138E	0.138E
66	0.138	0.109	0.109	0.138	0.079	0.109	0.138	0.109	0.109	0.138	0.109	0.109	0.138	0.109	0.109	0.138E	0.138	0.138	0.168E	0.138E	0.168E
72	0.138	0.109	0.109	0.138	0.079	0.109	0.138	0.109	0.109	0.138	0.109	0.109	0.138	0.109	0.138	0.168E	0.138E	0.138E	0.168E	0.138E	0.168E
78	0.168	0.109	0.109	0.168	0.079	0.109	0.168	0.109	0.109	0.168	0.109	0.109	0.168	0.138	0.138	0.168E	0.138E	0.138E	0.168E	0.168E	0.168E
84	0.168	0.109	0.138	0.168	0.079	0.109	0.168	0.109	0.109	0.168	0.109	0.109	0.168	0.138	0.138	0.168E	0.138E	0.168E	0.168E	0.168E	0.168E
90		0.138	0.138		0.079	0.109		0.109	0.109		0.109	0.138		0.138	0.138		0.168E	0.168E		0.168E	0.168E
96		0.138	0.138		0.109	0.109		0.109	0.109		0.138	0.138		0.138	0.168		0.168E	0.168E		0.168E	0.168E
102		0.138Z	0.138Z		0.109	0.109		0.109	0.109		0.138	0.138		0.138	0.168		0.168E	0.168E			
108		0.138Z	0.168Z		0.109	0.109		0.109	0.109		0.138	0.138		0.168	0.168		0.168E	0.168E			
114		0.138Z	0.168Z		0.109	0.109		0.109	0.109		0.138	0.168		0.168	0.168		0.168E	0.168E			
120		0.138Z	0.168Z		0.109	0.109		0.109	0.138		0.138	0.168		0.168	0.168						
126		0.168Z	0.168Z		0.138	0.138		0.138	0.138		0.138	0.168		0.168	0.168						
132		0.168Z	0.168Z		0.138	0.138		0.138	0.138		0.168	0.168		0.168	0.168						
138		0.168Z	0.168Z		0.138	0.138		0.138	0.138		0.168	0.168		0.168	0.168						
144		0.168Z	0.168Z		0.168	0.168		0.168	0.168		0.168	0.168		0.168	0.168						

Notes:

\* 1 1/2" x 1/4" corrugations shall be use for 6", 8", and 10" diameters.

E Elongation according to Article 542.04(e), the elongation requirement for Type 1 fill heights may be eliminated for fills above 1'-6"

Z 1'-6" Minimum fill

Longitudinal seams assumed.

TABLE IB: THICKNESS OF CORRUGATED STEEL PIPE FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 68 mm x 13 mm, 75 mm x 25 mm AND 125 mm x 25 mm CORRUGATIONS (Metric)																					
Nominal Diameter mm	Type 1 Fill Height:			Type 2 Fill Height:			Type 3 Fill Height:			Type 4 Fill Height:			Type 5 Fill Height:			Type 6 Fill Height:			Type 7 Fill Height:		
	1 m and less 0.3 m min. cover			Greater than 1 m not exceeding 3 m			Greater than 3 m not exceeding 4.5 m			Greater than 4.5 m not exceeding 6 m			Greater than 6 m not exceeding 7.5 m			Greater than 7.5 m not exceeding 9 m			Greater than 9 m not exceeding 10.5 m		
	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm
300*	2.77			2.01			2.01			2.01			2.01			2.01			2.01		
375	2.77			2.01			2.01			2.01			2.01			2.77			2.77		
450	2.77			2.01			2.01			2.01			2.77			2.77			2.77		
525	2.77			2.01			2.01			2.01			2.77			2.77			2.77		
600	2.77			2.01			2.01			2.77			2.77			2.77			2.77		
750	2.77			2.01			2.77			2.77			2.77			2.77			2.77		
900	2.77E			2.01			2.77			2.77			2.77			2.77			3.51E		
1050	2.77	2.77	2.77	2.01	2.01	2.01	2.77	2.01	2.77	2.77	2.01	2.77	2.77	2.77	2.77	2.77E	2.77	2.77	3.51E	2.77	2.77
1200	2.77	2.77	2.77	2.77	2.01	2.01	2.77	2.01	2.77	2.77	2.77	2.77	2.77	2.77	2.77	3.51E	2.77	2.77	3.51E	2.77	2.77
1350	2.77	2.77	2.77	2.77	2.01	2.77	2.77	2.01	2.77	2.77	2.77	2.77	2.77	2.77	3.51E	2.77	2.77	4.27E	3.51	3.51	
1500	2.77	2.77	2.77	2.77	2.01	2.77	2.77	2.01	2.77	2.77	2.77	2.77	3.51	2.77	2.77	3.51E	2.77	3.51	4.27E	3.51E	3.51E
1650	3.51	2.77	2.77	3.51	2.01	2.77	3.51	2.77	2.77	3.51	2.77	2.77	3.51	2.77	2.77	3.51E	3.51	3.51	4.27E	3.51E	4.27E
1800	3.51	2.77	2.77	3.51	2.01	2.77	3.51	2.77	2.77	3.51	2.77	2.77	3.51	2.77	3.51	4.27E	3.51E	3.51E	4.27E	3.51E	4.27E
1950	4.27	2.77	2.77	4.27	2.01	2.77	4.27	2.77	2.77	4.27	2.77	2.77	4.27	3.51	3.51	4.27E	3.51E	3.51E	4.27E	4.27E	4.27E
2100	4.27	2.77	3.51	4.27	2.01	2.77	4.27	2.77	2.77	4.27	2.77	2.77	4.27	3.51	3.51	4.27E	3.51E	4.27E	4.27E	4.27E	4.27E
2250		3.51	3.51		2.01	2.77		2.77	2.77		2.77	3.51		3.51	3.51		4.27E	4.27E		4.27E	4.27E
2400		3.51	3.51		2.77	2.77		2.77	2.77		3.51	3.51		3.51	4.27		4.27E	4.27E		4.27E	4.27E
2550		3.51Z	3.51Z		2.77	2.77		2.77	2.77		3.51	3.51		3.51	4.27		4.27E	4.27E			
2700		3.51Z	4.27Z		2.77	2.77		2.77	2.77		3.51	3.51		4.27	4.27		4.27E	4.27E			
2850		3.51Z	4.27Z		2.77	2.77		2.77	2.77		3.51	4.27		4.27	4.27		4.27E	4.27E			
3000		3.51Z	4.27Z		2.77	2.77		2.77	3.51		3.51	4.27		4.27	4.27						
3150		4.27Z	4.27Z		3.51	3.51		3.51	3.51		3.51	4.27		4.27	4.27						
3300		4.27Z	4.27Z		3.51	3.51		3.51	3.51		4.27	4.27		4.27	4.27						
3450		4.27Z	4.27Z		3.51	3.51		3.51	3.51		4.27	4.27		4.27	4.27						
3600		4.27Z	4.27Z		4.27	4.27		4.27	4.27		4.27	4.27		4.27	4.27						

Notes:

\* 38 mm x 6.5 mm corrugations shall be use for 150 mm, 200 mm, and 250 mm diameters.

E Elongation according to Article 542.04(e), the elongation requirement for Type 1 fill heights may be eliminated for fills above 450 mm

Z 450 mm Minimum Fill

Longitudinal seams assumed.

TABLE IC: THICKNESS OF CORRUGATED ALUMINUM ALLOY PIPE  
 FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 2 2/3"x1/2" AND 3"x1" CORRUGATIONS

Nominal Diameter in.	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7	
	Fill Height: 3' and less 1' min. cover		Fill Height: Greater than 3' not exceeding 10'		Fill Height: Greater than 10' not exceeding 15'		Fill Height: Greater than 15' not exceeding 20'		Fill Height: Greater than 20' not exceeding 25'		Fill Height: Greater than 25' not exceeding 30'		Fill Height: Greater than 30' not exceeding 35'	
	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"
12	0.06		0.06		0.06		0.06		0.06		0.06		0.06	
15	0.06		0.06		0.06		0.06		0.06		0.06		0.06	
18	0.06		0.06		0.06		0.06		0.06		0.06		0.075	
21	0.075E		0.06		0.06		0.06		0.06		0.075		0.075E	
24	0.075E		0.06		0.06		0.06		0.06		0.075		0.075E	
30	0.105E		0.075		0.075		0.075		0.075		0.105E		0.105E	
36	0.105E		0.075		0.075		0.075		0.105		0.105E		0.105E	
42	0.105E	0.06	0.105	0.06	0.105	0.06	0.105	0.06	0.105	0.06	0.105E	0.105	0.105E	0.105E
48	0.105E	0.105	0.105	0.06	0.105	0.06	0.105	0.06	0.105	0.105	0.105E	0.105E	0.135E	0.135E
54	0.105E	0.105	0.105	0.06	0.105	0.06	0.105	0.105	0.105	0.105	0.105E	0.135E	0.135E	0.135E
60	0.135E	0.105	0.135	0.06	0.135	0.06	0.135	0.105	0.135	0.105	0.135E	0.135E	0.164E	0.135E
66	0.164E	0.105	0.164	0.06	0.164	0.06	0.164	0.105	0.164	0.135	0.164E	0.135E		0.135E
72	0.164E	0.135	0.164	0.06	0.164	0.105	0.164	0.105	0.164	0.135		0.135E		0.164E
78		0.135		0.075		0.105		0.135		0.135		0.135E		0.164E
84		0.135		0.105		0.105		0.135		0.135		0.164E		0.164E
90		0.135		0.105		0.105		0.135		0.135		0.164E		0.164E
96		0.135		0.105		0.105		0.135		0.164		0.164E		
102		0.135Z		0.135		0.135		0.135		0.164		0.164E		
108		0.135Z		0.135		0.135		0.135		0.164				
114		0.164Z		0.164		0.164		0.164		0.164				
120		0.164Z		0.164		0.164		0.164		0.164				

Notes:

E Elongation according to Article 542.04(e), the elongation requirement for Type 1 fill heights may be eliminated for fills above 1'-6"

TABLE IC: THICKNESS OF CORRUGATED ALUMINUM ALLOY PIPE  
 FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 2 2/3"x1/2" AND 3"x1" CORRUGATIONS  
 (Metric)

Nominal Diameter in.	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7	
	Fill Height: 1 m and less 0.3 m min. cover		Fill Height: Greater than 1 m not exceeding 3 m		Fill Height: Greater than 3 m not exceeding 4.5 m		Fill Height: Greater than 4.5 m not exceeding 6 m		Fill Height: Greater than 6 m not exceeding 7.5 m		Fill Height: Greater than 7.5 m not exceeding 9 m		Fill Height: Greater than 9 m not exceeding 10.5 m	
	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm
300	1.52		1.52		1.52		1.52		1.52		1.52		1.52	
375	1.52		1.52		1.52		1.52		1.52		1.52		1.52	
450	1.52		1.52		1.52		1.52		1.52		1.52		1.91	
525	1.91E		1.52		1.52		1.52		1.52		1.91		1.91E	
600	1.91E		1.52		1.52		1.52		1.52		1.91		1.91E	
750	2.67E		1.91		1.91		1.91		1.91		2.67E		2.67E	
900	2.67E		1.91		1.91		1.91		2.67		2.67E		2.67E	
1050	2.67E	1.52	2.67	1.52	2.67	1.52	2.67	1.52	2.67	1.52	2.67E	2.67	2.67E	2.67E
1200	2.67E	2.67	2.67	1.52	2.67	1.52	2.67	1.52	2.67	2.67	2.67E	2.67E	3.43E	3.43E
1350	2.67E	2.67	2.67	1.52	2.67	1.52	2.67	2.67	2.67	2.67	2.67E	3.43E	3.43E	3.43E
1500	3.43E	2.67	3.43	1.52	3.43	1.52	3.43	2.67	3.43	2.67	3.43E	3.43E	4.17E	3.43E
1650	4.17E	2.67	4.17	1.52	4.17	1.52	4.17	2.67	4.17	3.43	4.17E	3.43E	3.43E	3.43E
1800	4.17E	3.43	4.17	1.52	4.17	2.67	4.17	2.67	4.17	3.43		3.43E		4.17E
1950		3.43		1.91		2.67		3.43		3.43		3.43E		4.17E
2100		3.43		2.67		2.67		3.43		3.43		4.17E		4.17E
2250		3.43		2.67		2.67		3.43		3.43		4.17E		4.17E
2400		3.43		2.67		2.67		3.43		4.17		4.17E		
2550		3.43Z		3.43		3.43		3.43		4.17		4.17E		
2700		3.43Z		3.43		3.43		3.43		4.17				
2850		4.17Z		4.17		4.17		4.17		4.17				
3000		4.17Z		4.17		4.17		4.17		4.17				

Notes:

E Elongation according to Article 542.04(e), the elongation requirement for Type 1 fill heights may be eliminated for fills above 450 mm.



Table IIA: THICKNESS FOR CORRUGATED STEEL PIPE ARCHES AND CORRUGATED ALUMINUM ALLOY PIPE ARCHES  
 FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE

Equivalent Round Size in.	Corrugated Steel & Aluminum Pipe Arch 2 2/3" x 1/2"		Corrugated Steel & Aluminum Pipe Arch 3" x 1"		Corrugated Steel Pipe Arch 5" x 1"		Min. Cover	Type 1			Type 2			Type 3								
	Span		Rise		Span			Rise		Fill Height:			Fill Height:			Fill Height:						
	(in.)		(in.)		(in.)			(in.)		3' and less			Greater than 3' not exceeding 10'			Greater than 10' not exceeding 15'						
	Span (in.)	Rise (in.)	Span (in.)	Rise (in.)	Span (in.)	Rise (in.)		Steel & Aluminum	Steel		Aluminum		Steel		Aluminum		Steel		Aluminum			
							2 2/3" x 1/2"	3"x1"	5" x 1"	2 2/3" x 1/2"	3"x1"	2 2/3" x 1/2"	3"x1"	5" x 1"	2 2/3" x 1/2"	3"x1"	2 2/3" x 1/2"	3"x1"	5" x 1"	2 2/3" x 1/2"	3"x1"	
15	17	13																				
18	21	15																				
21	24	18																				
24	28	20																				
30	35	24																				
36	42	29																				
42	49	33																				
48	57	38	53	41	53	41	1'-6"	0.109	0.079	0.109	0.135	0.060	0.109	0.079	0.109	0.135	0.060	0.109	0.079	0.109	0.135	0.060
54	64	43	60	46	60	46	1'-6"	0.109	0.109	0.109	0.135	0.060	0.109	0.079	0.109	0.135	0.060	0.109	0.079	0.109	0.135	0.060
60	71	47	66	51	66	51	1'-6"	0.138	0.109	0.109	0.164	0.060	0.138	0.079	0.109	0.164	0.060	0.138	0.109	0.109	0.164	0.060
66	77	52	73	55	73	55	1'-6"	0.168	0.109	0.109		0.105	0.168	0.079	0.109		0.075	0.168	0.109	0.109		0.105
72	83	57	81	59	81	59	1'-6"	0.168	0.109	0.109		0.105	0.168	0.079	0.109		0.105	0.168	0.109	0.109		0.105
78			87	63	87	63	1'-6"		0.109	0.109		0.105		0.079	0.109		0.105		0.109	0.109		0.105
84			95	67	95	67	1'-6"		0.109	0.109		0.105		0.109	0.109		0.105		0.109	0.109		0.105
90			103	71	103	71	1'-6"		0.109	0.109		0.135		0.109	0.109		0.135		0.109	0.109		0.135
96			112	75	112	75	1'-6"		0.109	0.109		0.164		0.109	0.109		0.164		0.109	0.109		0.164
102			117	79	117	79	1'-6"		0.109	0.109		0.164		0.109	0.109		0.164		0.109	0.109		0.164
108			128	83	128	83	1'-6"		0.138	0.138				0.138	0.138				0.138	0.138		
114			137	87	137	87	1'-6"		0.138	0.138				0.138	0.138				0.138	0.138		
120			142	91	142	91	1'-6"		0.168	0.168				0.168	0.168				0.168	0.168		

Notes:

The Type 1 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 3 tons per square foot.

The Type 2 and 3 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 2 tons per square foot.

This minimum bearing capacity will be determined by the Engineer in the field.

Table IIA: THICKNESS FOR CORRUGATED STEEL PIPE ARCHES AND CORRUGATED ALUMINUM ALLOY PIPE ARCHES  
 FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE  
 (Metric)

Equivalent Round Size (mm)	Corrugated Steel & Aluminum Pipe Arch 68 x 13 mm		Corrugated Steel & Aluminum Pipe Arch 75 x 25 mm		Corrugated Steel Pipe Arch 125 x 25 mm		Min. Cover	Type 1					Type 2					Type 3						
	Span		Rise		Span			Rise		Steel		Aluminum			Steel		Aluminum			Steel		Aluminum		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm
	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
375	430	330					0.5 m	2.01			1.52			2.01			1.52			2.01			1.52	
450	530	380					0.5 m	2.77			1.52			2.01			1.52			2.01			1.52	
525	610	460					0.5 m	2.77			1.52			2.01			1.52			2.01			1.52	
600	710	510					0.5 m	2.77			1.91			2.01			1.91			2.01			1.91	
750	870	630					0.5 m	2.77			1.91			2.01			1.91			2.77			1.91	
900	1060	740					0.5 m	2.77			2.67			2.01			2.67			2.77			2.67	
1050	1240	840					0.5 m	2.77			2.67			2.77			2.67			2.77			2.67	
1200	1440	970	1340	1050	1340	1050	0.5 m	2.77	2.01	2.77	3.43	1.52	2.77	2.01	2.77	3.43	1.52	2.77	2.01	2.77	3.43	1.52	2.77	
1350	1620	1100	1520	1170	1520	1170	0.5 m	2.77	2.77	2.77	3.43	1.52	2.77	2.01	2.77	3.43	1.52	2.77	2.01	2.77	3.43	1.52	2.77	
1500	1800	1200	1670	1300	1670	1300	0.5 m	3.51	2.77	2.77	4.17	1.52	3.51	2.01	2.77	4.17	1.52	3.51	2.77	2.77	4.17	1.52	3.51	
1650	1950	1320	1850	1400	1850	1400	0.5 m	4.27	2.77	2.77		2.67	4.27	2.01	2.77		1.91	4.27	2.77	2.77		2.67	4.27	
1800	2100	1450	2050	1500	2050	1500	0.5 m	4.27	2.77	2.77		2.67	4.27	2.01	2.77		2.67	4.27	2.77	2.77		2.67	4.27	
1950			2200	1620	2200	1620	0.5 m		2.77	2.77		2.67		2.01	2.77		2.67			2.77	2.77		2.67	
2100			2400	1720	2400	1720	0.5 m		2.77	2.77		2.67		2.77	2.77		2.67			2.77	2.77		2.67	
2250			2600	1820	2600	1820	0.5 m		2.77	2.77		3.43		2.77	2.77		3.43			2.77	2.77		3.43	
2400			2840	1920	2840	1920	0.5 m		2.77	2.77		4.17		2.77	2.77		4.17			2.77	2.77		4.17	
2550			2970	2020	2970	2020	0.5 m		2.77	2.77		4.17		2.77	2.77		4.17			2.77	2.77		4.17	
2700			3240	2120	3240	2120	0.5 m		3.51	3.51				3.51	3.51					3.51	3.51			
2850			3470	2220	3470	2220	0.5 m		3.51	3.51				3.51	3.51					3.51	3.51			
3000			3600	2320	3600	2320	0.5 m		4.27	4.27				4.27	4.27					4.27	4.27			

**Notes:**

The Type 1 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 290 kN per square meter.

The Type 2 and 3 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 192 kN per square meter.

This minimum bearing capacity will be determined by the Engineer in the field.

Table IIB: CLASSES OF REINFORCED CONCRETE ELLIPTICAL AND REINFORCED CONCRETE ARCH PIPE FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE											
Equivalent Round Size (in.)	Reinforced Concrete Elliptical pipe (in.)		Reinforced Concrete Arch pipe (in.)		Minimum Cover	Type 1		Type 2		Type 3	
	Span	Rise	Span	Rise		RCCP HE & A	Fill Height: 3' and less		Fill Height: Greater than 3' not exceeding 10'		Fill Height: Greater than 10' not exceeding 15'
					HE		Arch	HE	Arch	HE	Arch
15	23	14	18	11	1' -0"	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
18	23	14	22	13 1/2	1' -0"	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
21	30	19	26	15 1/2	1' -0"	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
24	30	19	28 1/2	18	1' -0"	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
27	34	22	36 1/4	22 1/2	1' -0"	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
30	38	24	36 1/4	22 1/2	1' -0"	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
36	45	29	43 3/4	26 5/8	1' -0"	HE-II	A-II	HE-III	A-III	HE-IV	A-IV
42	53	34	51 1/8	31 5/16	1' -0"	HE-I	A-II	HE-III	A-III	HE-IV	A-IV
48	60	38	58 1/2	36	1' -0"	HE-I	A-II	HE-III	A-III	1460	1450
54	68	43	65	40	1' -0"	HE-I	A-II	HE-III	A-III	1460	1460
60	76	48	73	45	1' -0"	HE-I	A-II	HE-III	A-III	1460	1470
66	83	53	88	54	1' -0"	HE-I	A-II	HE-III	A-III	1470	1480
72	91	58	88	54	1' -0"	HE-I	A-II	HE-III	A-III	1470	1480

Notes:

A number indicates the D-Load for the diameter and depth of fill and that a special design is required.

Design assumptions; Water filled pipe, AASHTO Type 2 installation per AASHTO LRFD Table 12.10.2.1-1

Table IIB: CLASSES OF REINFORCED CONCRETE ELLIPTICAL AND REINFORCED CONCRETE ARCH PIPE FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE (Metric)

Equivalent Round Size (mm)	Reinforced Concrete Elliptical pipe (mm)		Reinforced Concrete Arch pipe (mm)		Minimum Cover	Type 1		Type 2		Type 3	
	Span	Rise	Span	Rise		RCCP HE & A	Fill Height: 1 m and less		Fill Height: Greater than 1 m not exceeding 3 m		Fill Height: Greater than 3 m not exceeding 4.5 m
					HE		Arch	HE	Arch	HE	Arch
375	584	356	457	279	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
450	584	356	559	343	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
525	762	483	660	394	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
600	762	483	724	457	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
686	864	559	921	572	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
750	965	610	921	572	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
900	1143	737	1111	676	0.3 m	HE-II	A-II	HE-III	A-III	HE-IV	A-IV
1050	1346	864	1299	795	0.3 m	HE-I	A-II	HE-III	A-III	HE-IV	A-IV
1200	1524	965	1486	914	0.3 m	HE-I	A-II	HE-III	A-III	70	70
1350	1727	1092	1651	1016	0.3 m	HE-I	A-II	HE-III	A-III	70	70
1500	1930	1219	1854	1143	0.3 m	HE-I	A-II	HE-III	A-III	70	70
1676	2108	1346	2235	1372	0.3 m	HE-I	A-II	HE-III	A-III	70	70
1800	2311	1473	2235	1372	0.3 m	HE-I	A-II	HE-III	A-III	70	70

Notes:

A number indicates the D-Load for the diameter and depth of fill and that a special design is required.

Design assumptions; Water filled pipe, AASHTO Type 2 installation per AASHTO LRFD Table 12.10.2.1-1

TABLE IIIA: PLASTIC PIPE PERMITTED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE																			
Nominal Diameter (in.)	Type 1					Type 2					Type 3					Type 4			
	Fill Height: 3' and less, with 1' min					Fill Height: Greater than 3', not exceeding 10'					Fill Height: Greater than 10', not exceeding 15'					Fill Height: Greater than 15', not exceeding 20'			
	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPP
10	X	X	X	X	NA	X	X	X	X	NA	X	X	X	X	NA	X	X	X	NA
12	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA
15	X	X	NA	X	X	X	X	NA	X	X	X	X	NA	NA	X	X	X	NA	X
18	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA
21	X	X	NA	NA	NA	X	X	NA	NA	NA	X	X	NA	NA	NA	X	X	NA	NA
24	X	X	X	X	X	X	X	X	X	X	X	X	NA	NA	NA	X	X	X	NA
30	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA
36	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA	NA	X	X	X	NA
42	X	NA	X	X	NA	X	NA	X	NA	NA	X	NA	X	NA	NA	X	NA	X	NA
48	X	NA	X	X	X	X	NA	X	NA	NA	X	NA	X	NA	NA	X	NA	X	NA

Notes:

- PVC Polyvinyl Chloride (PVC) pipe with a smooth interior
- CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior
- PE Polyethylene (PE) pipe with a smooth interior
- CPE Corrugated Polyethylene (PE) pipe with a smooth interior
- CPP Corrugated Polypropylene (CPP) pipe with a smooth interior
- X This material may be used for the given pipe diameter and fill height
- NA Not Available

TABLE IIIA: PLASTIC PIPE PERMITTED  
 FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE  
 (Metric)

Nominal Diameter (mm)	Type 1					Type 2					Type 3					Type 4			
	Fill Height: 1 m and less, with 0.3 m min. cover					Fill Height: Greater than 1 m, not exceeding 3 m					Fill Height: Greater than 3 m, not exceeding 4.5 m					Fill Height: Greater than 4.5 m, not exceeding 6 m			
	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPP
250	X	X	X	X	NA	X	X	X	X	NA	X	X	X	X	NA	X	X	X	NA
300	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA
375	X	X	NA	X	X	X	X	NA	X	X	X	X	NA	NA	X	X	X	NA	X
450	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA
525	X	X	NA	NA	NA	X	X	NA	NA	NA	X	X	NA	NA	NA	X	X	NA	NA
600	X	X	X	X	X	X	X	X	X	X	X	X	NA	NA	NA	X	X	X	NA
750	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA
900	X	X	X	X	X	X	X	X	NA	X	X	X	X	NA	NA	X	X	X	NA
1000	X	NA	X	X	NA	X	NA	X	NA	NA	X	NA	X	NA	NA	X	NA	X	NA
1200	X	NA	X	X	X	X	NA	X	NA	NA	X	NA	X	NA	NA	X	NA	X	NA

Notes:

- PVC Polyvinyl Chloride (PVC) pipe with a smooth interior
- CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior
- PE Polyethylene (PE) pipe with a smooth interior
- CPE Corrugated Polyethylene (PE) pipe with a smooth interior
- CPP Corrugated Polypropylene (CPP) pipe with a smooth interior
- X This material may be used for the given pipe diameter and fill height
- NA Not Available

TABLE IIIB: PLASTIC PIPE PERMITTED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE								
Nominal Diameter (in.)	Type 5			Type 6			Type 7	
	Fill Height: Greater than 20', not exceeding 25'			Fill Height: Greater than 25', not exceeding 30'			Fill Height: Greater than 30', not exceeding 35'	
	PVC	CPVC		PVC	CPVC		CPVC	
10	X	X		X	X		X	
12	X	X		X	X		X	
15	X	X		X	X		X	
18	X	X		X	X		X	
21	X	X		X	X		X	
24	X	X		X	X		X	
30	X	X		X	X		X	
36	X	X		X	X		X	
42	X	NA		X	NA		NA	
48	X	NA		X	NA		NA	

Notes:

PVC Polyvinyl Chloride (PVC) pipe with a smooth interior

CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior

X This material may be used for the given pipe diameter and fill height

NA Not Available

TABLE IIIB: PLASTIC PIPE PERMITTED  
 FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE  
 (metric)

Nominal Diameter (mm)	Type 5			Type 6			Type 7	
	Fill Height: Greater than 6 m, not exceeding 7.5 m			Fill Height: Greater than 7.5 m, not exceeding 9 m			Fill Height: Greater than 9 m, not exceeding 10.5 m	
	PVC	CPVC		PVC	CPVC		CPVC	
250	X	X		X	X		X	
300	X	X		X	X		X	
375	X	X		X	X		X	
450	X	X		X	X		X	
525	X	X		X	X		X	
600	X	X		X	X		X	
750	X	X		X	X		X	
900	X	X		X	X		X	
1000	X	NA		X	NA		NA	
1200	X	NA		X	NA		NA	

Notes:

- PVC Polyvinyl Chloride (PVC) pipe with a smooth interior
- CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior
- PE Polyethylene (PE) pipe with a smooth interior
- X This material may be used for the given pipe diameter and fill height
- NA Not Available



Revise the first sentence of the first paragraph of Article 542.04(c) of the Standard Specifications to read:

“Compacted aggregate, at least 4 in. (100 mm) in depth below the pipe culvert, shall be placed the entire width of the trench and for the length of the pipe culvert, except compacted impervious material shall be used for the outer 3 ft (1 m) at each end of the pipe culvert.”

Revise the seventh paragraph of Article 542.04(d) of the Standard Specifications to read:

“PVC, PE and CPP pipes shall be joined according to the manufacturer’s specifications.”

Replace the third sentence of the first paragraph of Article 542.04(h) of the Standard Specifications with the following:

“The total cover required for various construction loadings shall be as recommended by the manufacturer of the pipe to be loaded. The manufacturer’s recommendations shall be provided in writing.”

Delete “Table IV : Wheel Loads and Total Cover” in Article 542.04(h) of the Standard Specifications.

Revise the first and second paragraphs of Article 542.04(i) of the Standard Specifications to read:

“(i) Deflection Testing for Pipe Culverts. All PE, PVC and CPP pipe culverts shall be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted. The testing shall be performed in the presence of the Engineer.

For PVC, PE, and CPP pipe culverts with diameters 24 in. (600 mm) or smaller, a mandrel drag shall be used for deflection testing. For PVC, PE, and CPP pipe culverts with diameters over 24 in. (600 mm), deflection measurements other than by a mandrel shall be used.”

Revise Articles 542.04(i)(1) and (2) of the Standard Specifications to read:

“(1) For all PVC pipe: as defined using ASTM D 3034 methodology.

(2) For all PE and CPP pipe: the average inside diameter based on the minimum and maximum tolerances specified in the corresponding ASTM or AASHTO material specifications.”

Revise the second sentence of the second paragraph of Article 542.07 of the Standard Specifications to read:

“When a prefabricated end section is used, it shall be of the same material as the pipe culvert, except for polyethylene (PE), polyvinylchloride (PVC), and polypropylene (PP) pipes which shall have metal end sections.”

Revise the first paragraph of Article 1040.03 of the Standard Specifications to read:

“**1040.03 Polyvinyl Chloride (PVC) Pipe.** Acceptance testing of PVC pipe and fittings shall be accomplished during the same construction season in which they are installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements.”

Delete Articles 1040.03(e) and (f) of the Standard Specifications.

Revise Articles 1040.04(c) and (d) of the Standard Specifications to read:

“(c) PE Profile Wall Pipe for Insertion Lining. The pipe shall be according to ASTM F 894. When used for insertion lining of pipe culverts, the pipe liner shall have a minimum pipe stiffness of 46 psi (317 kPa) at five percent deflection for nominal inside diameters of 42 in. (1050 mm) or less. For nominal inside diameters of greater than 42 in. (1050 mm), the pipe liner shall have a minimum pipe stiffness of 32.5 psi (225 kPa) at five percent deflection. All sizes shall have wall construction that presents essentially smooth internal and external surfaces.

(d) PE Pipe with a Smooth Interior. The pipe shall be according to ASTM F 714 (DR 32.5) with a minimum cell classification of PE 335434 as defined in ASTM D 3350. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties and the resin used to manufacture the pipe meets or exceeds the minimum cell classification requirements.”

Add the following to Section 1040 of the Standard Specifications:

“**1040.08 Polypropylene (PP) Pipe.** Storage and handling shall be according to the manufacturer's recommendations, except in no case shall the pipe be exposed to direct sunlight for more than six months. Acceptance testing of the pipe shall be accomplished during the same construction season in which it is installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements.

(a) Corrugated PP Pipe with a Smooth Interior. The pipe shall be according to AAHSTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type S or D.

- (b) Perforated Corrugated PP Pipe with A Smooth Interior. The pipe shall be according to AASHTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type SP. In addition, the top centerline of the pipe shall be marked so that it is readily visible from the top of the trench before backfilling, and the upper ends of the slot perforations shall be a minimum of ten degrees below the horizontal.”

**LRFD STORM SEWER BURIAL TABLES (BDE)**

Effective: November 1, 2013

Revise Article 550.02 of the Standard Specifications to read as follows:

“Item	Article Section
(a) Clay Sewer Pipe .....	1040.02
(b) Extra Strength Clay Pipe .....	1040.02
(c) Concrete Sewer, Storm Drain, and Culvert Pipe .....	1042
(d) Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe .....	1042
(e) Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe (Note 1) .....	1042
(f) Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe (Note 1) .....	1042
(g) Polyvinyl Chloride (PVC) Pipe .....	1040.03
(h) Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior .....	1040.03
(i) Corrugated Polypropylene (CPP) Pipe with Smooth Interior .....	1040.07
(j) Rubber Gaskets and Preformed Flexible Joint Sealants for Concrete Pipe .....	1056
(k) Mastic Joint Sealer for Pipe .....	1055
(l) External Sealing Band .....	1057
(m) Fine Aggregate (Note 2) .....	1003.04
(n) Coarse Aggregate (Note 3) .....	1004.05
(o) Reinforcement Bars and Welded Wire Fabric .....	1006.10
(p) Handling Hole Plugs .....	1042.16
(q) Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04
(r) Corrugated Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04

Note 1. The class of elliptical and arch pipe used for various storm sewer sizes and heights of fill shall conform to the requirements for circular pipe.

Note 2. The fine aggregate shall be moist.

Note 3. The coarse aggregate shall be wet.”

Revise the table for permitted materials in Article 550.03 of the Standard Specifications as follows:

"Class	Materials
A	Rigid Pipes: Clay Sewer Pipe Extra Strength Clay Pipe Concrete Sewer, Storm Drain, and Culvert Pipe Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
B	Rigid Pipes: Clay Sewer Pipe Extra Strength Clay Pipe Concrete Sewer, Storm Drain, and Culvert Pipe Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe Flexible Pipes: Polyvinyl Chloride (PVC) Pipe Corrugated Polyvinyl Chloride Pipe (PVC) with a Smooth Interior Polyethylene (PE) Pipe with a Smooth Interior Corrugated Polyethylene (PE) Pipe with a Smooth Interior Corrugated Polypropylene (CPP) Pipe with a Smooth Interior"

Replace the storm sewers tables in Article 550.03 of the Standard Specifications with the following:

STORM SEWERS KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE																
Nominal Diameter in.	Type 1								Type 2							
	Fill Height: 3' and less With 1' minimum cover								Fill Height: Greater than 3' not exceeding 10'							
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP
10	NA	3	X	X	X	X	X	NA	NA	1	*X	X	X	X	X	NA
12	IV	NA	X	X	X	X	X	X	II	1	*X	X	X	X	X	X
15	IV	NA	NA	X	X	NA	X	X	II	1	*X	X	X	NA	X	X
18	IV	NA	NA	X	X	X	X	X	II	2	X	X	X	X	X	X
21	III	NA	NA	X	X	NA	NA	NA	II	2	X	X	X	NA	NA	NA
24	III	NA	NA	X	X	X	X	X	II	2	X	X	X	X	X	X
27	III	NA	NA	NA	NA	NA	NA	NA	II	3	X	NA	NA	NA	NA	NA
30	IV	NA	NA	X	X	X	X	X	II	3	X	X	X	X	X	X
33	III	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	NA	NA	NA	NA
36	III	NA	NA	X	X	X	X	X	II	NA	X	X	X	X	NA	X
42	II	NA	X	X	NA	X	X	NA	II	NA	X	X	NA	X	NA	NA
48	II	NA	X	X	NA	X	X	X	II	NA	X	X	NA	X	NA	NA
54	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
60	II	NA	NA	NA	NA	NA	NA	X	II	NA	NA	NA	NA	NA	NA	X
66	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
72	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
78	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
84	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
90	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA
96	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA
102	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA
108	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

CSP Concrete Sewer, Storm drain, and Culvert Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

PE Polyethylene Pipe with a Smooth Interior

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene pipe with a Smooth Interior

X This material may be used for the given pipe diameter and fill height.

NA This material is Not Acceptable for the given pipe diameter and fill height.

\* May also use Standard Strength Clay Pipe

STORM SEWERS (Metric) KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE																
Nominal Diameter in.	Type 1								Type 2							
	Fill Height: 1 m' and less With 300 mm minimum cover								Fill Height: Greater than 1 m not exceeding 3 m							
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP
250	NA	3	X	X	X	X	X	NA	NA	1	*X	X	X	X	X	NA
300	IV	NA	X	X	X	X	X	X	II	1	*X	X	X	X	X	X
375	IV	NA	NA	X	X	NA	X	X	II	1	*X	X	X	NA	X	X
450	IV	NA	NA	X	X	X	X	X	II	2	X	X	X	X	X	X
525	III	NA	NA	X	X	NA	NA	NA	II	2	X	X	X	NA	NA	NA
600	III	NA	NA	X	X	X	X	X	II	2	X	X	X	X	X	X
675	III	NA	NA	NA	NA	NA	NA	NA	II	3	X	NA	NA	NA	NA	NA
750	IV	NA	NA	X	X	X	X	X	II	3	X	X	X	X	X	X
825	III	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	NA	NA	NA	NA
900	III	NA	NA	X	X	X	X	X	II	NA	X	X	X	X	NA	X
1050	II	NA	X	X	NA	X	X	NA	II	NA	X	X	NA	X	NA	NA
1200	II	NA	X	X	NA	X	X	X	II	NA	X	X	NA	X	NA	NA
1350	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
1500	II	NA	NA	NA	NA	NA	NA	X	II	NA	NA	NA	NA	NA	NA	X
1650	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
1800	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
1950	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
2100	II	NA	NA	NA	NA	NA	NA	NA	II	NA	NA	NA	NA	NA	NA	NA
2250	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA
2400	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA
2550	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA
2700	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

CSP Concrete Sewer, Storm drain, and Culvert Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

PE Polyethylene Pipe with a Smooth Interior

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene pipe with a Smooth Interior

X This material may be used for the given pipe diameter and fill height.

NA This material is Not Acceptable for the given pipe diameter and fill height.

\* May also use Standard Strength Clay Pipe

STORM SEWERS KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE															
Nominal Diameter in.	Type 3								Type 4						
	Fill Height: Greater than 10' not exceeding 15'								Fill Height: Greater than 15' not exceeding 20'						
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPP
10	NA	2	X	X	X	X	X	NA	NA	3	X	X	X	X	NA
12	III	2	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
15	III	3	X	X	X	NA	NA	X	IV	NA	NA	X	X	NA	X
18	III	NA	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
21	III	NA	NA	X	X	NA	NA	NA	IV	NA	NA	X	X	NA	NA
24	III	NA	NA	X	X	X	NA	NA	IV	NA	NA	X	X	X	NA
27	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
30	III	NA	NA	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
33	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
36	III	NA	NA	X	X	X	NA	NA	IV	NA	NA	X	X	X	NA
42	III	NA	NA	X	NA	X	NA	NA	IV	NA	NA	X	NA	X	NA
48	III	NA	NA	X	NA	X	NA	NA	IV	NA	NA	X	NA	X	NA
54	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
60	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
66	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
72	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
78	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
84	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA
90	III	NA	NA	NA	NA	NA	NA	NA	1680	NA	NA	NA	NA	NA	NA
96	III	NA	NA	NA	NA	NA	NA	NA	1690	NA	NA	NA	NA	NA	NA
102	IV	NA	NA	NA	NA	NA	NA	NA	1700	NA	NA	NA	NA	NA	NA
108	1360	NA	NA	NA	NA	NA	NA	NA	1710	NA	NA	NA	NA	NA	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

CSP Concrete Sewer, Storm drain, and Culvert Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

PE Polyethylene Pipe with a Smooth Interior

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene pipe with a Smooth Interior

X This material may be used for the given pipe diameter and fill height.

NA This material is Not Acceptable for the given pipe diameter and fill height.

\* May also use Standard Strength Clay Pipe

Note RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the D-load to produce a 0.01 in crack.

STORM SEWERS (metric) KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE																
Nominal Diameter in.	Type 3								Type 4							
	Fill Height: Greater than 3 m not exceeding 4.5 m								Fill Height: Greater than 4.5 m not exceeding 6 m							
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPP	
250	NA	2	X	X	X	X	X	NA	NA	3	X	X	X	X	NA	
300	III	2	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA	
375	III	3	X	X	X	NA	NA	X	IV	NA	NA	X	X	NA	X	
450	III	NA	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA	
525	III	NA	NA	X	X	NA	NA	NA	IV	NA	NA	X	X	NA	NA	
600	III	NA	NA	X	X	X	NA	NA	IV	NA	NA	X	X	X	NA	
675	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
750	III	NA	NA	X	X	X	NA	X	IV	NA	NA	X	X	X	NA	
825	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
900	III	NA	NA	X	X	X	NA	NA	IV	NA	NA	X	X	X	NA	
1050	III	NA	NA	X	NA	X	NA	NA	IV	NA	NA	X	NA	X	NA	
1200	III	NA	NA	X	NA	X	NA	NA	IV	NA	NA	X	NA	X	NA	
1350	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
1500	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
1650	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
1800	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
1950	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
2100	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	NA	NA	NA	NA	
2250	III	NA	NA	NA	NA	NA	NA	NA	80	NA	NA	NA	NA	NA	NA	
2400	III	NA	NA	NA	NA	NA	NA	NA	80	NA	NA	NA	NA	NA	NA	
2550	IV	NA	NA	NA	NA	NA	NA	NA	80	NA	NA	NA	NA	NA	NA	
2700	70	NA	NA	NA	NA	NA	NA	NA	80	NA	NA	NA	NA	NA	NA	

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

CSP Concrete Sewer, Storm drain, and Culvert Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

PE Polyethylene Pipe with a Smooth Interior

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene pipe with a Smooth Interior

X This material may be used for the given pipe diameter and fill height.

NA This material is Not Acceptable for the given pipe diameter and fill height.

\* May also use Standard Strength Clay Pipe

Note RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the metric D-load to produce a 25.4 micro-meter crack.



STORM SEWERS KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE								
Nominal Diameter in.	Type 5			Type 6			Type 7	
	Fill Height: Greater than 20' not exceeding 25'			Fill Height: Greater than 25' not exceeding 30'			Fill Height: Greater than 30' not exceeding 35'	
	RCCP	PVC	CPVC	RCCP	PVC	CPVC	RCCP	CPVC
10	NA	X	X	NA	X	X	NA	X
12	IV	X	X	V	X	X	V	X
15	IV	X	X	V	X	X	V	X
18	IV	X	X	V	X	X	V	X
21	IV	X	X	V	X	X	V	X
24	IV	X	X	V	X	X	V	X
27	IV	NA	NA	V	NA	NA	V	NA
30	IV	X	X	V	X	X	V	X
33	IV	NA	NA	V	NA	NA	V	NA
36	IV	X	X	V	X	X	V	X
42	IV	X	NA	V	X	NA	V	NA
48	IV	X	NA	V	X	NA	V	NA
54	IV	NA	NA	V	NA	NA	V	NA
60	IV	NA	NA	V	NA	NA	V	NA
66	IV	NA	NA	V	NA	NA	V	NA
72	V	NA	NA	V	NA	NA	V	NA
78	2020	NA	NA	2370	NA	NA	2730	NA
84	2020	NA	NA	2380	NA	NA	2740	NA
90	2030	NA	NA	2390	NA	NA	2750	NA
96	2040	NA	NA	2400	NA	NA	2750	NA
102	2050	NA	NA	2410	NA	NA	2760	NA
108	2060	NA	NA	2410	NA	NA	2770	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

X This material may be used for the given pipe diameter and fill height.

NA This material is Not Acceptable for the given pipe diameter and fill height.

Note RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the D-load to produce a 0.01 in crack.

STORM SEWERS (metric)								
KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE								
Nominal Diameter in.	Type 5			Type 6			Type 7	
	Fill Height: Greater than 20' not exceeding 25'			Fill Height: Greater than 25' not exceeding 30'			Fill Height: Greater than 30' not exceeding 35'	
	RCCP	PVC	CPVC	RCCP	PVC	CPVC	RCCP	CPVC
250	NA	X	X	NA	X	X	NA	X
300	IV	X	X	V	X	X	V	X
375	IV	X	X	V	X	X	V	X
450	IV	X	X	V	X	X	V	X
525	IV	X	X	V	X	X	V	X
600	IV	X	X	V	X	X	V	X
675	IV	NA	NA	V	NA	NA	V	NA
750	IV	X	X	V	X	X	V	X
825	IV	NA	NA	V	NA	NA	V	NA
900	IV	X	X	V	X	X	V	X
1050	IV	X	NA	V	X	NA	V	NA
1200	IV	X	NA	V	X	NA	V	NA
1350	IV	NA	NA	V	NA	NA	V	NA
1500	IV	NA	NA	V	NA	NA	V	NA
1650	IV	NA	NA	V	NA	NA	V	NA
1800	V	NA	NA	V	NA	NA	V	NA
1950	100	NA	NA	110	NA	NA	130	NA
2100	100	NA	NA	110	NA	NA	130	NA
2250	100	NA	NA	110	NA	NA	130	NA
2400	100	NA	NA	120	NA	NA	130	NA
2550	100	NA	NA	120	NA	NA	130	NA
2700	100	NA	NA	120	NA	NA	130	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

X This material may be used for the given pipe diameter and fill height.

NA This material is Not Acceptable for the given pipe diameter and fill height.

Note RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the metric D-load to produce a 25.4 micro-meter crack.

Revise the sixth paragraph of Article 550.06 of the Standard Specifications to read:

“PVC, PE and CPP pipes shall be joined according to the manufacturer’s specifications.”

Revise the first and second paragraphs of Article 550.08 of the Standard Specifications to read:

“**550.08 Deflection Testing for Storm Sewers.** All PVC, PE, and CPP storm sewers shall be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted. The testing shall be performed in the presence of the Engineer.

For PVC, PE, and CPP storm sewers with diameters 24 in. (600 mm) or smaller, a mandrel drag shall be used for deflection testing. For PVC, PE, and CPP storm sewers with diameters over 24 in. (600 mm), deflection measurements other than by a mandrel shall be used.”

Revise the fifth paragraph of Article 550.08 to read as follows.

“The outside diameter of the mandrel shall be 95 percent of the base inside diameter. For all PVC pipe the base inside diameter shall be defined using ASTM D 3034 methodology. For all PE and CPP pipe, the base inside diameter shall be defined as the average inside diameter based on the minimum and maximum tolerances specified in the corresponding ASTM or AASHTO material specifications.”

Revise the first paragraph of Article 1040.03 of the Standard Specifications to read:

“**1040.03 Polyvinyl Chloride (PVC) Pipe.** Acceptance testing of PVC pipe and fittings shall be accomplished during the same construction season in which they are installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements.”

Delete Articles 1040.03(e) and (f) of the Standard Specifications.

Revise Articles 1040.04(c) and (d) of the Standard Specifications to read:

“(c) PE Profile Wall Pipe for Insertion Lining. The pipe shall be according to ASTM F 894. When used for insertion lining of pipe culverts, the pipe liner shall have a minimum pipe stiffness of 46 psi (317 kPa) at five percent deflection for nominal inside diameters of 42 in. (1050 mm) or less. For nominal inside diameters of greater than 42 in. (1050 mm), the pipe liner shall have a minimum pipe stiffness of 32.5 psi (225 kPa) at five percent deflection. All sizes shall have wall construction that presents essentially smooth internal and external surfaces.

- (d) PE Pipe with a Smooth Interior. The pipe shall be according to ASTM F 714 (DR 32.5) with a minimum cell classification of PE 335434 as defined in ASTM D 3350. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties and the resin used to manufacture the pipe meets or exceeds the minimum cell classification requirements.”

Add the following to Section 1040 of the Standard Specifications:

**“1040.08 Polypropylene (PP) Pipe.** Storage and handling shall be according to the manufacturer's recommendations, except in no case shall the pipe be exposed to direct sunlight for more than six months. Acceptance testing of the pipe shall be accomplished during the same construction season in which it is installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements.

- (a) Corrugated PP Pipe with a Smooth Interior. The pipe shall be according to AAHSTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type S or D.
- (b) Perforated Corrugated PP Pipe with A Smooth Interior. The pipe shall be according to AASHTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type SP. In addition, the top centerline of the pipe shall be marked so that it is readily visible from the top of the trench before backfilling, and the upper ends of the slot perforations shall be a minimum of ten degrees below the horizontal.”

**PAVEMENT MARKING FOR BIKE SYMBOL (BDE)**

Effective: January 1, 2014

Add the following to the SYMBOLS table in Article 780.14 of the Standard Specifications:

“Symbol	Large Size sq ft (sq m)	Small Size Sq ft (sq m)
Bike Symbol	6.0 (0.56)	--“

## **PAVEMENT PATCHING (BDE)**

Effective: January 1, 2010

Revise the first sentence of the second paragraph of Article 701.17(e)(1) of the Standard Specifications to read:

“In addition to the traffic control and protection shown elsewhere in the contract for pavement, two devices shall be placed immediately in front of each open patch, open hole, and broken pavement where temporary concrete barriers are not used to separate traffic from the work area.”

## **PAYROLLS AND PAYROLL RECORDS (BDE)**

Effective: January 1, 2014

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

### **“STATEMENTS AND PAYROLLS**

The payroll records shall include the worker’s name, the worker’s address, the worker’s telephone number when available, the worker’s social security number, the worker’s classification or classifications, the worker’s gross and net wages paid in each pay period, the worker’s number of hours worked each day, the worker’s starting and ending times of work each day. However, any Contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employers and one or more labor organization must additionally submit the worker’s hourly wage rate, the worker’s hourly overtime wage rate, the worker’s hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable.

The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work, except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead, the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee’s social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted to the Engineer. The submittals shall be on the Department’s form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box (“No Work”, “Suspended”, or “Complete”) checked on the form.”

STATE CONTRACTS. Revise Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

“IV. COMPLIANCE WITH THE PREVAILING WAGE ACT

1. **Prevailing Wages.** All wages paid by the Contractor and each subcontractor shall be in compliance with The Prevailing Wage Act (820 ILCS 130), as amended, except where a prevailing wage violates a federal law, order, or ruling, the rate conforming to the federal law, order, or ruling shall govern. The Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto. If the Department of Labor revises the wage rates, the Contractor will not be allowed additional compensation on account of said revisions.
2. **Payroll Records.** The Contractor and each subcontractor shall make and keep, for a period of five years from the later of the date of final payment under the contract or completion of the contract, records of the wages paid to his/her workers. The payroll records shall include the worker's name, the worker's address, the worker's telephone number when available, the worker's social security number, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, the worker's starting and ending times of work each day. However, any contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employers and one or more labor organization must additionally submit the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable. Upon seven business days' notice, these records shall be available at a location within the State, during reasonable hours, for inspection by the Department or the Department of Labor; and Federal, State, or local law enforcement agencies and prosecutors.
3. **Submission of Payroll Records.** The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work, except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted to the Engineer. The submittals shall be on the Department's form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box (“No Work”, “Suspended”, or “Complete”) checked on the form.

Each submittal shall be accompanied by a statement signed by the Contractor or subcontractor, or an officer, employee, or officer thereof, which avers that: (i) he or she has examined the records and such records are true and accurate; (ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required by the Act; and (iii) the Contractor or subcontractor is aware that filing a payroll record that he/she knows to be false is a Class A misdemeanor.

4. Employee Interviews. The Contractor and each subcontractor shall permit his/her employees to be interviewed on the job, during working hours, by compliance investigators of the Department or the Department of Labor.”

#### **PORTLAND CEMENT CONCRETE – CURING OF ABUTMENTS AND PIERS (BDE)**

Effective: January 1, 2014

Revise Note 7/ of the Index Table of Curing and Protection of Concrete Construction of Article 1020.13 of the Standard Specifications to read:

“7/ Asphalt emulsion for waterproofing may be used in lieu of other curing methods when specified and permitted according to Article 503.18. The top surfaces of abutments and piers shall be cured according to Article 1020.13(a)(3) or (5).”

#### **PORTLAND CEMENT CONCRETE EQUIPMENT (BDE)**

Effective: November 1, 2013

Add the following to the first paragraph of Article 1103.03(a)(5) of the Standard Specifications to read:

“As an alternative to a locking key, the start and finish time for mixing may be automatically printed on the batch ticket. The start and finish time shall be reported to the nearest second.”

## **PROGRESS PAYMENTS (BDE)**

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics’ Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department’s Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department’s obligation to pay the Contractor, the Contractor’s obligation to pay the subcontractor, and the Contractor’s or subcontractor’s total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”



## **QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES (BDE)**

Effective: January 1, 2012

Revised: January 1, 2014

Revise Note 7/ of Schedule B of Recurring Special Provision Check Sheet #31 of the Standard Specifications to read:

- 7/ The test of record for strength shall be the day indicated in Article 1020.04. For cement aggregate mixture II, a strength requirement is not specified and testing is not required. Additional strength testing to determine early falsework and form removal, early pavement or bridge opening to traffic, or to monitor strengths is at the discretion of the Contractor. Strength shall be defined as the average of two 6 x 12 in. (150 x 300 mm) cylinder breaks, three 4 x 8 in. (100 x 200 mm) cylinder breaks, or two beam breaks for field tests. Per Illinois Modified AASHTO T 23, cylinders shall be 6 x 12 in. (150 x 300 mm) when the nominal maximum size of the coarse aggregate exceeds 1 in. (25 mm).

## **REINFORCEMENT BARS (BDE)**

Effective: November 1, 2013

Revise the first and second paragraphs of Article 508.05 of the Standard Specifications to read:

**“508.05 Placing and Securing.** All reinforcement bars shall be placed and tied securely at the locations and in the configuration shown on the plans prior to the placement of concrete. Manual welding of reinforcement may only be permitted on precast concrete products as indicated in the current Bureau of Materials and Physical Research Policy Memorandum “Quality Control / Quality Assurance Program for Precast Concrete Products”, and for precast prestressed concrete products as indicated in the Department’s current “Manual for Fabrication of Precast Prestressed Concrete Products”. Reinforcement bars shall not be placed by sticking or floating into place or immediately after placement of the concrete.

Bars shall be tied at all intersections, except where the center to center dimension is less than 1 ft (300 mm) in each direction, in which case alternate intersections shall be tied. Molded plastic clips may be used in lieu of wire to secure bar intersections, but shall not be permitted in horizontal bar mats subject to construction foot traffic or to secure longitudinal bar laps. Plastic clips shall adequately secure the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. Plastic clips may be recycled plastic, and shall meet the approval of the Engineer. The number of ties as specified shall be doubled for lap splices at the stage construction line of concrete bridge decks when traffic is allowed on the first completed stage during the pouring of the second stage.”

Revise the fifth paragraph of Article 508.05 of the Standard Specifications to read:

“Supports for reinforcement in bridge decks shall be metal. For all other concrete construction the supports shall be metal or plastic. Metal bar supports shall be made of cold-drawn wire, or other approved material and shall be either epoxy coated, galvanized or plastic tipped. When the reinforcement bars are epoxy coated, the metal supports shall be epoxy coated. Plastic supports may be recycled plastic. Supports shall be provided in sufficient number and spaced to provide the required clearances. Supports shall adequately support the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. The legs of supports shall be spaced to allow an opening that is a minimum 1.33 times the nominal maximum aggregate size used in the concrete. Nominal maximum aggregate size is defined as the largest sieve which retains any of the aggregate sample particles. All supports shall meet the approval of the Engineer.”

Revise the first sentence of the eighth paragraph of Article 508.05 of the Standard Specifications to read:

“Epoxy coated reinforcement bars shall be tied with plastic coated wire, epoxy coated wire, or molded plastic clips where allowed.”

Add the following sentence to the end of the first paragraph of Article 508.06(c) of the Standard Specifications:

“In addition, the total slip of the bars within the splice sleeve of the connector after loading in tension to 30 ksi (207 MPa) and relaxing to 3 ksi (20.7 MPa) shall not exceed 0.01 in. (254 microns).”

Revise Article 1042.03(d) of the Standard Specifications to read:

“(d) Reinforcement and Accessories: The concrete cover over all reinforcement shall be within  $\pm 1/4$  in. ( $\pm 6$  mm) of the specified cover.

Welded wire fabric shall be accurately bent and tied in place.

Miscellaneous accessories to be cast into the concrete or for forming holes and recesses shall be carefully located and rigidly held in place by bolts, clamps, or other effective means. If paper tubes are used for vertical dowel holes, or other vertical holes which require grouting, they shall be removed before transportation to the construction site.”

## REMOVAL AND DISPOSAL OF SURPLUS MATERIALS (BDE)

Effective: November 2, 2012

Revise the first four paragraphs of Article 202.03 of the Standard Specifications to read:

**“202.03 Removal and Disposal of Surplus, Unstable, Unsuitable, and Organic Materials.** Suitable excavated materials shall not be wasted without permission of the Engineer. The Contractor shall dispose of all surplus, unstable, unsuitable, and organic materials, in such a manner that public or private property will not be damaged or endangered.

Suitable earth, stones and boulders naturally occurring within the right-of-way may be placed in fills or embankments in lifts and compacted according to Section 205. Broken concrete without protruding metal bars, bricks, rock, stone, reclaimed asphalt pavement with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities may be used in embankment or in fill. If used in fills or embankments, these materials shall be placed and compacted to the satisfaction of the Engineer; shall be buried under a minimum of 2 ft (600 mm) of earth cover (except when the materials include only uncontaminated dirt); and shall not create an unsightly appearance or detract from the natural topographic features of an area. Broken concrete without protruding metal bars, bricks, rock, or stone may be used as riprap as approved by the Engineer. If the materials are used for fill in locations within the right-of-way but outside project construction limits, the Contractor must specify to the Engineer, in writing, how the landscape restoration of the fill areas will be accomplished. Placement of fill in such areas shall not commence until the Contractor’s landscape restoration plan is approved by the Engineer.

Aside from the materials listed above, all other construction and demolition debris or waste shall be disposed of in a licensed landfill, recycled, reused, or otherwise disposed of as allowed by State or Federal laws and regulations. When the Contractor chooses to dispose of uncontaminated soil at a clean construction and demolition debris (CCDD) facility or at an uncontaminated soil fill operation, it shall be the Contractor’s responsibility to have the pH of the material tested to ensure the value is between 6.25 and 9.0, inclusive. A copy of the pH test results shall be provided to the Engineer.

A permit shall be obtained from IEPA and made available to the Engineer prior to open burning of organic materials (i.e., plant refuse resulting from pruning or removal of trees or shrubs) or other construction or demolition debris. Organic materials originating within the right-of-way limits may be chipped or shredded and placed as mulch around landscape plantings within the right-of-way when approved by the Engineer. Chipped or shredded material to be placed as mulch shall not exceed a depth of 6 in. (150 mm).”

**SURFACE TESTING OF HOT-MIX ASPHALT OVERLAYS (BDE)**

Effective: January 1, 2013

Revise Article 406.03(h) of the Standard Specifications to read:

“(h) Pavement Surface Test Equipment ..... 1101.10”

Revise Article 406.11 of the Standard Specifications to read:

“**406.11 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 407.09 of the Supplemental Specifications, except as follows:

One wheel track shall be tested per lane. Testing shall be performed 3 ft (1 m) from and parallel to the edge of the lane away from traffic.

SMOOTHNESS ASSESSMENT SCHEDULE (HMA Overlays)		
High-Speed Mainline Pavement Average Profile Index in./mile (mm/km)	Low-Speed Mainline Pavement Average Profile Index in./mile (mm/km)	Assessment per subplot
6.0 (95) or less	15.0 (240) or less	+\$150.00
>6.0 (95) to 10.0 (160)	>15.0 (240) to 25.0 (400)	+\$80.00
>10.0 (160) to 30.0 (475)	>25.0 (400) to 45.0 (710)	+\$0.00
>30.0 (475) to 40.0 (635)	>45.0 (710) to 65.0 (1025)	+\$0.00
Greater than 40.0 (635)	Greater than 65.0 (1025)	-\$300.00”

**TRACKING THE USE OF PESTICIDES (BDE)**

Effective: August 1, 2012

Add the following paragraph after the first paragraph of Article 107.23 of the Standard Specifications:

“Within 48 hours of the application of pesticides, including but not limited to herbicides, insecticides, algacides, and fungicides, the Contractor shall complete and return to the Engineer, Operations form “OPER 2720”.”

## **TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY (BDE)**

Effective: January 1, 2014

Add the following to the Article 701.18 of the Standard Specifications:

“(l) Standard 701428. When the shoulder width will not allow placement of the shoulder truck and provide 9 ft (3.0 m) of unobstructed lane width in the lane being closed, the shoulder truck shall not be used.”

Revise Article 701.19(a) of the Standard Specifications to read:

“(a) Not Measured. Traffic control and protection required under Standards 701001, 701006, 701011, 701101, 701106, 701301, 701311, 701400, 701426, 701427, and 701428 will not be measured for payment.”

## **TRAINING SPECIAL PROVISIONS (BDE)**

Effective: October 15, 1975

This Training Special Provision supersedes Section 7b of the Special Provision entitled “Specific Equal Employment Opportunity Responsibilities,” and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor’s equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 3. In the event the Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor’s needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

Method of Measurement. The unit of measurement is in hours.

Basis of Payment. This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

**IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG)**

Effective: August 1, 2012

Revised: February 1, 2014

In addition to the Contractor's equal employment opportunity affirmative action efforts undertaken as elsewhere required by this Contract, the Contractor is encouraged to participate in the incentive program to provide additional on-the-job training to certified graduates of IDOT funded pre-apprenticeship training programs outlined by this Special Provision.

It is the policy of IDOT to fund IDOT pre-apprenticeship training programs throughout Illinois to provide training and skill-improvement opportunities to assure the increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The intent of this IDOT Training Program Graduate (TPG) Special Provision is to place certified graduates of these IDOT funded pre-apprentice training programs on IDOT project sites when feasible, and provide the graduates with meaningful on-the-job training intended to lead to journey-level employment. IDOT and its sub-recipients, in carrying out the responsibilities of a state contract, shall determine which construction contracts shall include "Training Program Graduate Special Provisions." To benefit from the incentives to encourage the participation in the additional on-the-job training under this Training Program Graduate Special Provision, the Contractor shall make every reasonable effort to employ certified graduates of IDOT funded Pre-apprenticeship Training Programs to the extent such persons are available within a reasonable recruitment area.

Participation pursuant to IDOT's requirements by the Contractor or subcontractor in this Training Program Graduate (TPG) Special Provision entitles the Contractor or subcontractor to be reimbursed at \$15.00 per hour for training given a certified TPG on this contract. As approved by the Department, reimbursement will be made for training persons as specified herein. This reimbursement will be made even though the Contractor or subcontractor may receive additional training program funds from other sources for other trainees, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving other reimbursement. For purposes of this Special Provision the Contractor is not relieved of requirements under applicable federal law, the Illinois Prevailing Wage Act, and is not eligible for other training fund reimbursements in addition to the Training Program Graduate (TPG) Special Provision reimbursement.

No payment shall be made to the Contractor if the Contractor or subcontractor fails to provide the required training. It is normally expected that a TPG will begin training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project through completion of the contract, so long as training opportunities exist in his work classification or until he has completed his training program. Should the TPG's employment end in advance of the completion of the contract, the Contractor shall promptly notify the designated IDOT staff member under this Special Provision that the TPG's involvement in the contract has ended and supply a written report of the reason for the end of the involvement, the hours completed by the TPG under the Contract and the number of hours for which the incentive payment provided under this Special Provision will be or has been claimed for the TPG.



The Contractor will provide for the maintenance of records and furnish periodic reports documenting its performance under this Special Provision.

**METHOD OF MEASUREMENT:** The unit of measurement is in hours.

**BASIS OF PAYMENT:** This work will be paid for at the contract unit price of \$15.00 per hour for certified TRAINEES TRAINING PROGRAM GRADUATE. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

The Contractor shall provide training opportunities aimed at developing full journeyworker in the type of trade or job classification involved. The initial number of TPGs for which the incentive is available under this contract is 3. During the course of performance of the Contract the Contractor may seek approval from the Department for additional incentive eligible TPGs. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the TPGs are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Special Provision. The Contractor shall also insure that this Training Program Graduate Special Provision is made applicable to such subcontract if the TPGs are to be trained by a subcontractor and that the incentive payment is passed on to each subcontractor.

For the Contractor to meet the obligations for participation in this TPG incentive program under this Special Provision, the Department has contracted with several entities to provide screening, tutoring and pre-training to individuals interested in working in the applicable construction classification and has certified those students who have successfully completed the program and are eligible to be TPGs. A designated IDOT staff member, the Director of the Office of Business and Workforce Diversity (OBWD), will be responsible for providing assistance and referrals to the Contractor for the applicable TPGs. For this contract, the Director of OBWD is designated as the responsible IDOT staff member to provide the assistance and referral services related to the placement for this Special Provision. For purposes of this Contract, contacting the Director of OBWD and interviewing each candidate he/she recommends constitutes reasonable recruitment.

Prior to commencing construction, the Contractor shall submit to the Department for approval the TPGs to be trained in each selected classification. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. No employee shall be employed as a TPG in any classification in which he/she has successfully completed a training course leading to journeyman status or in which he/she has been employed as a journeyman. Notwithstanding the on-the-job training purpose of this TPG Special Provision, some offsite training is permissible as long as the offsite training is an integral part of the work of the contract and does not comprise a significant part of the overall training.

Training and upgrading of TPGs of IDOT pre-apprentice training programs is intended to move said TPGs toward journeyman status and is the primary objective of this Training Program Graduate Special Provision. Accordingly, the Contractor shall make every effort to enroll TPGs by recruitment through the IDOT funded TPG programs to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance and entitled to the Training Program Graduate Special Provision \$15.00 an hour incentive.

The Contractor or subcontractor shall provide each TPG with a certificate showing the type and length of training satisfactorily completed.

**TRAVERSABLE PIPE GRATE (BDE)**

Effective: January 1, 2013

Revised: April 1, 2013

Description. This work shall consist of constructing a traversable pipe grate on a concrete end section.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications.

Item	Article/Section
(a) Traversable Pipe Grate Components (Note 1)	
(b) Chemical Adhesive Resin System .....	1027
(c) High Strength Steel Bolts, Nuts, and Washers (Note 2) .....	1006.08

Note 1. All steel pipe shall be according to ASTM A 53 (Type E or S), Grade B, or ASTM A 500 Grade B, standard weight (SCH. 40). Structural steel shapes and plates shall be according to AASHTO M270 Grade 50 (M 270M Grade 345) and the requirements of Article 1006.04 of the Standard Specifications. All steel components of the grating system shall be galvanized according to AASHTO M 111 or M 232 as applicable.

Anchor rods shall be according to ASTM F 1554, Grade 36 (Grade 250).

Note 2. Threaded rods conforming to the requirements of ASTM F 1554, Grade 105 (Grade 725) may be used for the thru bolts.

### **CONSTRUCTION REQUIREMENTS**

Fabrication of the traversable pipe grate shall be according to the requirements of Section 505 of the Standard Specifications and as shown on the plans.

Anchor rods shall be set according to Article 509.06. Bolts and anchor rods shall be snug tightened by a few impacts of an impact wrench or the full force of a worker using an ordinary spud wrench. Thru bolts shall be snug tightened and shall be brought to a snug tight condition followed by an additional 2/3 turn on one of the nuts. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut.

Method of Measurement. This work will be measured for payment in place in feet (meters). The length measured shall be along the pipe grate elements from end to end for both longitudinal and intermediate support pipes.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for TRAVERSABLE PIPE GRATE.

### **WARM MIX ASPHALT (BDE)**

Effective: January 1, 2012

Revised: November 1, 2013

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

Materials.

Add the following to Article 1030.02 of the Standard Specifications.

“(h) Warm Mix Asphalt (WMA) Technologies (Note 3)”

Add the following note to Article 1030.02 of the Standard Specifications.

“Note 3. Warm mix additives or foaming processes shall be selected from the current Bureau of Materials and Physical Research Approved List, “Warm-Mix Asphalt Technologies”.”

Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

“**1102.01 Hot-Mix Asphalt Plant.** The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, “Approval of Hot-Mix Asphalt Plants and Equipment”. Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements.”

Add the following to Article 1102.01(a) of the Standard Specifications.

“(13) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of  $\pm 2$  percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.
- b. Additives. Additives shall be introduced into the plant according to the supplier’s recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes.”

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

“(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification.

Production.

Revise the second paragraph of Article 1030.06(a) of the Standard Specifications to read:

“At the start of mix production for HMA, WMA, and HMA using WMA technologies, QC/QA mixture start-up will be required for the following situations; at the beginning of production of a new mixture design, at the beginning of each production season, and at every plant utilized to produce mixtures, regardless of the mix.”

Quality Control/Quality Assurance Testing.

Revise the table in Article 1030.05(d)(2)a. of the Standard Specifications to read:

Parameter	Frequency of Tests	Frequency of Tests	Test Method See Manual of Test Procedures for Materials
	High ESAL Mixture Low ESAL Mixture	All Other Mixtures	
Aggregate Gradation  % passing sieves: 1/2 in. (12.5 mm), No. 4 (4.75 mm), No. 8 (2.36 mm), No. 30 (600 μm) No. 200 (75 μm)  Note 1.	1 washed ignition oven test on the mix per half day of production  Note 4.	1 washed ignition oven test on the mix per day of production  Note 4.	Illinois Procedure
Asphalt Binder Content by Ignition Oven  Note 2.	1 per half day of production	1 per day	Illinois-Modified AASHTO T 308
VMA  Note 3.	Day's production ≥ 1200 tons:  1 per half day of production  Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day	N/A	Illinois-Modified AASHTO R 35

Parameter	Frequency of Tests High ESAL Mixture Low ESAL Mixture	Frequency of Tests All Other Mixtures	Test Method See Manual of Test Procedures for Materials
	thereafter (first sample of the day)		
Air Voids  Bulk Specific Gravity of Gyratory Sample  Note 5.	Day's production $\geq$ 1200 tons:  1 per half day of production  Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	1 per day	Illinois-Modified AASHTO T 312
Maximum Specific Gravity of Mixture	Day's production $\geq$ 1200 tons:  1 per half day of production  Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	1 per day	Illinois-Modified AASHTO T 209

Note 1. The No. 8 (2.36 mm) and No. 30 (600  $\mu$ m) sieves are not required for All Other Mixtures.

Note 2. The Engineer may waive the ignition oven requirement for asphalt binder content if the aggregates to be used are known to have ignition asphalt binder content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the asphalt binder content.

Note 3. The  $G_{sb}$  used in the voids in the mineral aggregate (VMA) calculation shall be the same average  $G_{sb}$  value listed in the mix design.

Note 4. The Engineer reserves the right to require additional hot bin gradations for batch

Note 5. The WMA compaction temperature for mixture volumetric testing shall be  $270 \pm 5$  °F ( $132 \pm 3$  °C) for quality control testing. The WMA compaction temperature for quality assurance testing will be  $270 \pm 5$  °F ( $132 \pm 3$  °C) if the mixture is not allowed to cool to room temperature. If the mixture is allowed to cool to room temperature it shall be reheated to standard HMA compaction temperatures.”

### **CONSTRUCTION REQUIREMENTS.**

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

“The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C). WMA shall be delivered at a minimum temperature of 215 °F (102 °C).”

#### **Basis of Payment.**

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

#### **WEEKLY DBE TRUCKING REPORTS (BDE)**

Effective: June 2, 2012

The Contractor shall provide a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used on the jobsite; or used for the delivery and/or removal of equipment/material to and from the jobsite. The jobsite shall also include offsite locations, such as plant sites or storage sites, when those locations are used solely for this contract.



The report shall be submitted on the form provided by the Department within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur. The report shall be submitted to the Engineer and a copy shall be provided to the district EEO Officer.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

### **BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)**

Effective: November 2, 2006

Revised: August 1, 2013

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, or joint filling/sealing.

The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

- Where: CA = Cost Adjustment, \$.
- BPI<sub>P</sub> = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
- BPI<sub>L</sub> = Bituminous Price Index, as published by the Department for the month prior to the letting, \$/ton (\$/metric ton).
- %AC<sub>V</sub> = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC<sub>V</sub> will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC<sub>V</sub> and undiluted emulsified asphalt will be considered to be 65% AC<sub>V</sub>.
- Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards:  $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$ . For HMA mixtures measured in square meters:  $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$ . When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different  $G_{mb}$  and  $\% AC_V$ .

For bituminous materials measured in gallons:  $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$   
For bituminous materials measured in liters:  $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

Where: A = Area of the HMA mixture, sq yd (sq m).  
D = Depth of the HMA mixture, in. (mm).  
 $G_{mb}$  = Average bulk specific gravity of the mixture, from the approved mix design.  
V = Volume of the bituminous material, gal (L).  
SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the  $BPI_L$  and  $BPI_P$  in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
BITUMINOUS MATERIALS COST ADJUSTMENTS**

The bidder shall submit this completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments. After award, this form, when submitted, shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract?

Yes  No

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## **FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)**

Effective: April 1, 2009

Revised: July 1, 2009

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name and sign and date the form shall make this contract exempt of fuel cost adjustments for all categories of work. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and work added by adjusted unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Added work paid for by time and materials will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

### (a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.

- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.
- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B – Subbase and Aggregate Base courses	0.62	gal / ton
C – HMA Bases, Pavements and Shoulders	1.05	gal / ton
D – PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E – Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B – Subbase and Aggregate Base courses	2.58	liters / metric ton
C – HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D – PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E – Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

Where: CA = Cost Adjustment, \$  
FPI<sub>P</sub> = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)  
FPI<sub>L</sub> = Fuel Price Index, as published by the Department for the month prior to the letting, \$/gal (\$/liter)  
FUF = Fuel Usage Factor in the pay item(s) being adjusted  
Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Progress Payments. Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Final Quantities. Upon completion of the work and determination of final pay quantities, an adjustment will be prepared to reconcile any differences between estimated quantities previously paid and the final quantities. The value for the balancing adjustment will be based on a weighted average of FPI<sub>P</sub> and Q only for those months requiring the cost adjustment. The cost adjustment will be applicable to the final measured quantities of all applicable pay items.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI<sub>L</sub> and FPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
FUEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of fuel cost adjustments in all categories. Failure to indicate "Yes" for any category of work at the time of bid will make that category of work exempt from fuel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following categories of work?

- |  |     |                          |
|--|-----|--------------------------|
| Category A Earthwork.                          | Yes | <input type="checkbox"/> |
| Category B Subbases and Aggregate Base Courses | Yes | <input type="checkbox"/> |
| Category C HMA Bases, Pavements and Shoulders  | Yes | <input type="checkbox"/> |
| Category D PCC Bases, Pavements and Shoulders  | Yes | <input type="checkbox"/> |
| Category E Structures                          | Yes | <input type="checkbox"/> |

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## **STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)**

Effective: April 2, 2004

Revised: April 1, 2009

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, mesh reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in has a contract value of \$10,000 or greater.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars  
Q = quantity of steel incorporated into the work, in lb (kg)  
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where:  $MPI_M$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).



$MPI_L$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the  $MPI_M$  will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the  $MPI_L$  and  $MPI_M$  in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

**Attachment**

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling) Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness) Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness) Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness) Other piling	23 lb/ft (34 kg/m) 32 lb/ft (48 kg/m) 37 lb/ft (55 kg/m) See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail Steel Plate Beam Guardrail, Type A w/steel posts Steel Plate Beam Guardrail, Type B w/steel posts Steel Plate Beam Guardrail, Types A and B w/wood posts Steel Plate Beam Guardrail, Type 2 Steel Plate Beam Guardrail, Type 6 Traffic Barrier Terminal, Type 1 Special (Tangent) Traffic Barrier Terminal, Type 1 Special (Flared)	20 lb/ft (30 kg/m) 30 lb/ft (45 kg/m) 8 lb/ft (12 kg/m) 305 lb (140 kg) each 1260 lb (570 kg) each 730 lb (330 kg) each 410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms Traffic Signal Post Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 – 12 m) Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 – 16.5 m) Light Pole w/Mast Arm, 30 - 50 ft (9 – 15.2 m ) Light Pole w/Mast Arm, 55 - 60 ft (16.5 – 18 m) Light Tower w/Luminaire Mount, 80 - 110 ft (24 – 33.5 m) Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 – 42.5 m) Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 – 48.5 m)	11 lb/ft (16 kg/m) 14 lb/ft (21 kg/m) 21 lb/ft (31 kg/m) 13 lb/ft (19 kg/m) 19 lb/ft (28 kg/m) 31 lb/ft (46 kg/m) 65 lb/ft (97 kg/m) 80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence) Steel Railing, Type SM Steel Railing, Type S-1 Steel Railing, Type T-1 Steel Bridge Rail	64 lb/ft (95 kg/m) 39 lb/ft (58 kg/m) 53 lb/ft (79 kg/m) 52 lb/ft (77 kg/m)
Frames and Grates Frame Lids and Grates	250 lb (115 kg) 150 lb (70 kg)

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
STEEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following items of work?

Metal Piling	Yes	<input type="checkbox"/>
Structural Steel	Yes	<input type="checkbox"/>
Reinforcing Steel	Yes	<input type="checkbox"/>
Dowel Bars, Tie Bars and Mesh Reinforcement	Yes	<input type="checkbox"/>
Guardrail	Yes	<input type="checkbox"/>
Steel Traffic Signal and Light Poles, Towers and Mast Arms	Yes	<input type="checkbox"/>
Metal Railings (excluding wire fence)	Yes	<input type="checkbox"/>
Frames and Grates	Yes	<input type="checkbox"/>

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**STORM WATER POLLUTION PREVENTION PLAN**



**Storm Water Pollution Prevention Plan**

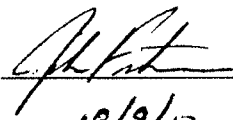
Route FAI Route 57 @ Stuenkel Road  
Section 99-1HB-R, 2012-048R  
County WILL

Marked Rte. Stuenkel Road  
Project No. D-91-001-11 & C-91-562-12  
Contract No. 60T40, 60V41 & 60L69

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Mr. John Fortman  
Print Name  
Acting Deputy Director of Highways, Region One  
Title  
Illinois Department of Transportation  
Agency

  
Signature  
10/9/12  
Date

**I. Site Description:**

A. Provide a description of the project location (include latitude and longitude):

The project is located along Stuenkel Road, from 800' west of Harlem Avenue to 1,700' east of Central Avenue, in the Villages of University Park and Frankfort, Will County, Illinois. The project includes removal of an existing bridge (S.N. 099-0200), replacement with a new bridge (S.N. 099-0526), improvements to Stuenkel Road, I-57, and the I-57 Ramps at Stuenkel Road. Also included are stormwater detention, stormwater conveyance, and associated grading. Adjacent properties include, but are not limited to, farmland, developed commercial property, wetlands, and Interstate right-of-way. Coordinates: (41.456047,-87.75748)

B. Provide a description of the construction activity which is the subject of this plan:

The proposed Stuenkel Rd and I-57 interchange improvements will include excavation for pavement removal, storm sewer installation, new culverts, pavement construction, regrading, and

embankment due to roadway widening and new ramps. The scope of work for the bridge contract (60T40) includes removal and replacement of the existing Stuenkel Rd bridge over I-57 and associated grading. The bridge removal and replacement will include excavation for pavement and bridge removal, retaining wall construction due to bridge widening, regrading, and embankment due to the proposed bridge length. The scope of work for the western roadway contract (60V41) will include roadway reconstruction and widening from west of Harlem to east of Ridgeland. Excavation for pavement and driveway removal and new ditches along with embankment for the wider roadway are included. The main interchange and roadway contract (60L69) will include the remainder of the anticipated work. This consists of Stuenkel Road widening from east of Ridgeland to east of Central, the five interchange ramps, detention ponds, and relocation of Hickory creek. The proposed improvements have been designed to minimize storm water impacts. Construction Erosion and Sediment Controls will be utilized for all contracts. The main interchange contract will include permanent water quality features. The Bridge Reconstruction Contract (60T40) and the Western Roadway Contract (60V41) will precede the main interchange and roadway contract (60L69). One SWPPP has been prepared for all three contracts. An Erosion Control Plan will be developed for each contract and will identify the type and location of Erosion Control practices associated with the work outlined in the contract. The Contractor is only responsible for the Erosion Control practices identified on the Erosion Control Plan for their specific contract.

- C. Provide the estimated duration of this project:

The estimated duration of this project is 18 months.

- D. The total area of the construction site is estimated to be 172.9 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 167.3 acres.

- E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

The estimated existing runoff coefficient is 0.57. The estimated proposed runoff coefficient is 0.74.

- F. List all soils found within project boundaries. Include map unit name, slope information, and erosivity:

Surficial soils along the project corridor are generally identified as jasper loam (2 - 5%)[K=0.24], bryce silt clay (2 - 5%)[K=0.17], frankfort silt loam (2 - 4%)[K=0.24-0.28], brenton silt loam (0 - 2%)[K=0.28], gravels, urban land (rating not applicable), and farm land (rating not applicable). Information was obtained from the National Resources Conservation Service's Web Soil Survey.

In general, the existing soils found within project limits are neither very erodible nor steep.

- G. Provide an aerial extent of wetland acreage at the site:

See Table 1: Wetlands located in the Vicinity of the Proposed Stuenkel Road Interchange. (Page 10 of this Permit)

- H. Provide a description of potentially erosive areas associated with this project:

Potentially erosive areas include locations of embankment grading and excavation, proposed roadside ditches, areas adjacent to Hickory Creek and areas adjacent to wetlands.

- I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of slopes, etc):

Typical Construction Procedures (not all activities are applicable to each contract):

Prior to earthmoving activities:

Installation of perimeter erosion barrier- silt fence

Installation of construction entrances

Earthwork:

Strip existing topsoil and stockpile when necessary

Excavation and grading

Construction:

Bridge construction

Stormsewer installation

Roadway construction

Landscaping:

Final grading and other miscellaneous items

Topsoil placement and permanent seeding and landscaping

The proposed foreslopes and backslopes are 3H:1V or flatter.

- J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

- K. Identify who owns the drainage system (municipality or agency) this project will drain into:

The drainage systems which this project will drain into are owned by the State of Illinois Department of Transportation and the Village of University Park.

- L. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

The receiving waters are an existing ditch system running north and south along I-57 (IDOT), Village of University Park storm sewer, Hickory Creek, and Forked Creek. The vegetated roadside swales, Village storm sewers and Forked Creek are not listed as impaired on the 2010 IEPA 303(d) list. Hickory Creek (Segment GG-06) is on the 2010 IEPA 303(d) list as impaired for arsenic, chloride and total phosphorous. The potential that construction activities performed on site will impact the impaired Hickory Creek is reduced by construction BMPs (on-site detention basin, temporary erosion control seeding, compost, temporary ditch checks, perimeter erosion control barrier, and inlet filters) in this plan. It is unlikely that quantities of soluble phosphorous and/or arsenic will be discharged from the project. Chloride will discharge, especially during winter application of ice melters as required for safety. The receiving waters are not listed as Biologically Significant Streams.

- M. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

Any areas within the defined project location but outside of construction limits shall remain undisturbed. This includes steep slopes and natural vegetation. All non-impacted wetlands and non-impacted portions of Hickory Creek will be included in the areas to remain protected or undisturbed. The non-impacted wetlands and non-impacted portions of Hickory Creek should be demarcated in the field by "Wetland. No intrusion" signs. The location of these signs are included on the Erosion Control Plan for each contract where work is conducted near a wetland/Hickory Creek.

- N. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- Floodplain
- Wetland Riparian
- Threatened and Endangered Species
- Historic Preservation
- 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation
- Applicable Federal, Tribal, State or Local Programs
- Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

- a. The name(s) of the listed water body, and identification of all pollutants causing impairment:
- b. Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:
- c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:
- d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

2. TMDL (fill out this section if checked above)

- a. The name(s) of the listed water body:
- b. Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

- c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

O. The following pollutants of concern will be associated with this construction project:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Soil Sediment             | <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input checked="" type="checkbox"/> Concrete                  | <input checked="" type="checkbox"/> Antifreeze / Coolants  |
| <input checked="" type="checkbox"/> Concrete Truck Waste      | <input checked="" type="checkbox"/> Waste water from cleaning construction equipment               |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Solid Waste Debris        | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Paints                    | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Solvents                  | <input type="checkbox"/> Other (specify)   |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides  | <input type="checkbox"/> Other (specify)   |

## II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

### A. Erosion and Sediment Controls

- Stabilized Practices:** Provided below is a description of interim and permanent stabilization practices, including site specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(A)(1)(a) and II(A)(3), stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

Where the initiation of stabilization measures by the seventh day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

The following stabilization practices will be used for this project:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips                      | <input type="checkbox"/> Sodding                                       |



- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Protection of Trees<br><input checked="" type="checkbox"/> Temporary Erosion Control Seeding<br><input type="checkbox"/> Temporary Turf (Seeding, Class 7)<br><input checked="" type="checkbox"/> Temporary Mulching<br><input checked="" type="checkbox"/> Permanent Seeding | <input checked="" type="checkbox"/> Geotextiles<br><input checked="" type="checkbox"/> Other (specify) Signs: Wetland. No Intrusion<br><input type="checkbox"/> Other (specify)<br><input type="checkbox"/> Other (specify)<br><input type="checkbox"/> Other (specify) |
|---|---|

Describe how the stabilization practices listed above will be utilized during construction:

Temporary erosion control seeding shall be applied in accordance with the Special Provisions within seven (7) days to all areas disturbed by construction. Additional stabilization requirements can be found in the Erosion and Sediment Control plans.

Erosion control blankets shall be installed over fill slopes and in high velocity areas that have been brought to final grade and seeded to protect slopes from erosion and allow seeds to germinate properly. Mulch shall be applied in relatively flat areas to prevent further erosion. Heavy duty erosion control blanket shall be utilized instead of erosion control blanket if required by Chapter 41 of the BDE Manual in temporary ditches.

Geotextiles will be placed under rip-rap at pipe culvert outfalls.

The non-impacted wetlands and non-impacted portions of Hickory Creek will be demarcated in the field by "Wetland. No intrusion" signs. The location of these signs are included on the Erosion Control Plan for each contract where work is conducted near a wetland/Hickory Creek.

Construction for the 60T40 contract will take place within IDOT ROW to preserve mature vegetation. Temporary erosion control seeding and mulching will limit erosion during construction.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

All areas disturbed by construction will be stabilized as soon as permitted with permanent seeding (various classes) or sodding following the finished grading. Temporary seeding and temporary mulch will be applied within 7 days if no disturbance is anticipated for 14 days.

For the first contract, permanent erosion control blanket and seeding will limit erosion post construction.

For the Western roadway and main interchange contracts, permanent landscaping will be in place at the completion of construction.

2. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following structural practices will be used for this project:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Sediment Control, Silt Fence  | <input checked="" type="checkbox"/> Rock Outlet Protection                     |
| <input checked="" type="checkbox"/> Temporary Ditch Check         | <input checked="" type="checkbox"/> Riprap                                     |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection  | <input type="checkbox"/> Gabions   |
| <input checked="" type="checkbox"/> Sediment Trap                 | <input type="checkbox"/> Slope Mattress  |
| <input type="checkbox"/> Temporary Pipe Slope Drain               | <input checked="" type="checkbox"/> Retaining Walls                            |
| <input checked="" type="checkbox"/> Temporary Sediment Basin      | <input type="checkbox"/> Slope Walls   |
| <input type="checkbox"/> Temporary Stream Crossing                | <input type="checkbox"/> Concrete Revetment Mats                               |
| <input checked="" type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders                                       |
| <input type="checkbox"/> Turf Reinforcement Mats                  | <input checked="" type="checkbox"/> Other (specify): Inlet and pipe protection |
| <input type="checkbox"/> Permanent Check Dams                     | <input checked="" type="checkbox"/> Other (specify): In-stream work plan       |
| <input type="checkbox"/> Permanent Sediment Basin                 | <input checked="" type="checkbox"/> Other (specify): Storm Sewer Construction  |
| <input type="checkbox"/> Aggregate Ditch                          | <input type="checkbox"/> Other (specify)                                       |
| <input type="checkbox"/> Paved Ditch                              | <input type="checkbox"/> Other (specify)                                       |

Describe how the structural practices listed above will be utilized during construction:

A silt fence will be placed adjacent to the areas of construction to intercept waterborne silt to reduce pollutants from leaving the site. These areas are marked on the Erosion Control Plan as sediment control, silt fence. Silt fence should not be utilized to demarcate the perimeter of the project location in areas where the silt fence is at the top of a slope, across concentrated flow, or across contours without j-hooks (Highway Standard sheet 280001). Alternative perimeter control measures including orange construction fence or chain-link fence for demarcating perimeter.

Coarse aggregate overlaying a geotextile fabric will be placed in locations for contractor access (if necessary, as to be determined by the Engineer). The aggregate surface of the access points will capture soil debris, reducing the amount of soil deposits placed onto the roadway by vehicles leaving the work zones.

Rolled excelsior ditch checks will be placed in disturbed swales at the spacing such that the low point in the center of the ditch check is at the same elevation as the base of the ditch check immediately upstream, or as directed by the Engineer, in order to prevent downstream erosion. Temporary ditch check locations are marked on the Erosion Control Plan. Temporary ditch checks should be used where concentrated flows cross the perimeter.

Inlet filters and inlet filter cleaning will be provided for storm sewers. These filters will be placed in every inlet, catch basin, or manhole with an open lid, which will drain water during at least a 10-year storm event, and cleaned in accordance with the Special Provisions. The Erosion Control Plan will identify the structures requiring inlet filters.

Inlet and pipe protection shall be a combination of temporary ditch checks, erosion control blanket (heavy duty), and temporary seeding. Straw bales and silt fence shall not be utilized for this purpose, as these measures result in flooding. The Erosion Control Plan will identify the structures requiring inlet and pipe protection.

Rock outfall protection and riprap will be used to dissipate and attenuate flow velocity as

well as to protect outlet areas where concentrated flows are present.

Sediment Traps shall be used at ditch outfalls or for inlet/pipe protection for drainage areas no greater than 216,000 sq. ft. (-5 acres) and no less than 4,500 square feet (-.1 acres). A combination of temporary ditch checks and excavation will be used to control runoff to receiving waters prior to placement of permanent erosion water quality features. Permanent sediment control features will be incorporated into the design of the detention/retention basins and will be constructed as early as possible in the interchange.

This project requires a US Army Corps Of Engineers (USACE) 404 permit that will be secured by the department. As a condition of this permit, the contractor will need to submit an in-stream work plan to the department for approval. Guidelines on acceptable instream work techniques can be found on the USACE website. The USACE defines and determines in-stream work. The cost of all materials and labor necessary to comply with the above provisions to prepare and implement an in-stream work plan will not be paid for separately, but shall be considered as included in the unit bid prices of the contract and no additional compensation will be allowed. Lack of an accepted plan or failure to comply will result in an ESC Deficiency Deduction.

**Storm Sewer Construction:** Where new storm sewer connects to existing sewer systems, the Contractor shall submit a plan to the Department's Resident Engineer for maintaining a stabilized flow line during storm sewer construction. A stabilized flow line between new sewer and open disturbance shall reduce the potential for offsite discharge of sediment bearing waters. Lack of an accepted plan or failure to comply will result in an ESC Deficiency Deduction.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Permanent features will be incorporated to control sediment and reduce flow velocities as well as to protect vulnerable surfaces from erosion.

3. **Storm Water Management:** Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

a. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design and Environment Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

b. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the

structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of storm water management controls:

Permanent measures for storm water management controls on will be placed as soon as possible during construction. All ditches will be vegetated, where feasible, which will provide a buffering effect for runoff contaminants. Ditches, basins, and compensatory storage locations should receive permanent seeding after final grading and topsoil has been placed.

4. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

N/A

5. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342a.
- a. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:
- Approximate duration of the project, including each stage of the project
  - Rainy season, dry season, and winter shutdown dates
  - Temporary stabilization measures to be employed by contract phases
  - Mobilization timeframe
  - Mass clearing and grubbing/roadside clearing dates
  - Deployment of Erosion Control Practices
  - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
  - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
  - Paving, saw-cutting, and any other pavement related operations
  - Major planned stockpiling operations
  - Timeframe for other significant long-term operations or activities that may plan non-

- storm water discharges such as dewatering, grinding, etc.
- Permanent stabilization activities for each area of the project

- b. The Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
- Material Delivery, Storage and Use – Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
  - Stockpile Management – Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
  - Waste Disposal – Discuss methods of waste disposal that will be used for this project.
  - Spill Prevention and Control – Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
  - Concrete Residuals and Washout Wastes – Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
  - Litter Management – Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
  - Vehicle and Equipment Fueling – Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Vehicle and Equipment Cleaning and Maintenance – Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Additional measures indicated in the plan.

### **III. Maintenance:**

When requested by the Contractor, the Resident Engineer will provide general maintenance guides to the Contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacturer's specifications.

Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or pollution runoff in compliance with environmental law and EPA Water Quality Regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site. The construction field engineer on a weekly basis shall inspect the project to determine that erosion control efforts are in place and effective and if other controls are necessary. Sediment collected during construction by the various temporary erosion systems shall be disposed on the site on a regular basis as directed by the Engineer and stabilized accordingly.

All erosion and sediment control measures should be checked weekly and after each significant rainfall (0.5 inch or greater in a 24-hour period) or equivalent snowfall. Additionally, during winter months, all measures should be checked after each significant snowmelt. The following items should be checked:

1. Seeding and Temporary Mulch – all areas subject to erosion, including erodible bare earth areas, will be temporarily seeded and inspected on a weekly basis to minimize the amount of erodible surface within the contract limits. Permanent seeding will be maintained until establishment.
2. Sediment Control, Silt Fence
3. Erosion Control Blanket and Geotextiles
4. Tree Protection
5. Ditch Checks, outlet protection, and rip-rap
6. Sediment/dewatering basins
7. Areas used for materials and storage that are exposed to storm water.

Additionally, all locations where vehicles enter and exit the construction site and all other areas subject to erosion should also be inspected periodically. Wetland warning signs and protective fence shall be inspected periodically. Inspection of these areas shall be made at least once every seven (7) days and within 24 hours of the end of each 0.5 inch or greater rainfall or equivalent snowfall.

All maintenance of the erosion and sediment control measures will be the responsibility of the contractor. This maintenance shall be in accordance with the IDOT Erosion and Sediment Control Field Guide for Construction Inspection (dated July 1, 2010) and IDOT's Best Management Practices - Maintenance Guides.

These maintenance guides can be located at the following links:  
[http://www.dot.state.il.us/desenv/environmental/IDOT\\_Field\\_Guide.pdf](http://www.dot.state.il.us/desenv/environmental/IDOT_Field_Guide.pdf)  
<http://www.dot.state.il.us/desenv/environmental/bestpractices.html>

#### **IV. Inspections:**

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report (BC 2259). Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm that is 0.5 inch or greater or equivalent snowfall. All Offsite Borrow, Waste, and Use areas are part of the construction site and are to be inspected according to the language in this section.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: [epa.swnoncomp@illinois.gov](mailto:epa.swnoncomp@illinois.gov), telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control

Attn: Compliance Assurance Section  
1021 North Grand East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

**V. Failure to Comply:**

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.

**TABLE 1:**

**Wetlands located in the Vicinity of the Proposed Stuenkel Road Interchange**

No.	Community-Type	Area(ac.)	Waters-Type	Impact by Contract		
				60T40-Bridge Only Impact	60V41 - West Contract Impact	60L69 (Interchange)-Impact
1	Wetmeadow	0.09	NRPWW	None	None	
2	Forestedwetland	0.82	ISOLATE	None	None	
3	Wetmeadow	0.12	ISOLATE	None	None	
4	Pond/wetmeadow	0.26	ISOLATE	None	Yes	
5A	Wetmeadow	0.31	ISOLATE	None	Yes	
6	Forestedwetland	0.12	ISOLATE	None	None	
7	Wetmeadow	0.09	ISOLATE	None	None	
8	Forestedwetland	5.35	ISOLATE	None	Yes	
11	Pond	2.87	ISOLATE	None	None	None
12	Wetmeadow	0.55	ISOLATE	None		Yes
13	Wetshrubland	0.22	ISOLATE	None		Yes
14	Forestedwetland	0.68	ISOLATE	None		Yes
15	Wetmeadow	0.43	ISOLATE	None		Yes
17	Forestedwetland	1.62	NRPWW	None		Yes
18	Marsh/retentionbasin	4.32	NRPWW	None		Yes
19	Wetmeadow	0.86	ISOLATE	None		None
20	Wetshrubland	0.08	NRPWW	None		None
22	Marsh/retentionbasin	0.23	ISOLATE	None		Yes
23A	Marsh	0.3	ISOLATE	None		Yes
24A	Forestedwetland	1.26	ISOLATE	None		Yes
25	Farmedwetland	1.4	ISOLATE	None	None	
26	Forestedwetland	0.16	ISOLATE	None		Yes
27	Forestedwetland	0.7	ISOLATE	None		Yes
28	Forestedwetland	0.13	ISOLATE	None		Yes
29	Forestedwetland	0.19	ISOLATE	None		Yes
30	Forestedwetland	0.2	ISOLATE	None		Yes
31	Forestedwetland	0.18	ISOLATE	None		Yes
32	Forestedwetland	0.39	ISOLATE	None		Yes
33	Forestedwetland	0.05	ISOLATE	None		Yes
34	Forestedwetland	0.03	ISOLATE	None		Yes





**Contractor  
Statement      Certification**

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.5 of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

Route	FAI Route 57 @ Stuenkel Road (Ridgeland Avenue to Central Avenue)	Marked Rte.	Stuenkel Road
Section	99-1HB—R1	Project No.	C-91-001-11
County	WILL	Contract No.	60L69

This certification statement is a part of the SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in the SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

Print Name	Signature
Title	Date
Name of Firm	Telephone
Street Address	City/State/ZIP

Items which this Contractor/subcontractor will be responsible for as required in Section II.5. of the SWPPP:

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## **PROJECT LABOR AGREEMENT - QUARTERLY EMPLOYMENT REPORT**

Public Act 97-0199 requires the Department to submit quarterly reports regarding the number of minorities and females employed under Project Labor Agreements. To assist in this reporting effort, the Contractor shall provide a quarterly workforce participation report for all minority and female employees working under the project labor agreement of this contract. The data shall be reported on Construction Form BC 820, Project Labor Agreement (PLA) Workforce Participation Quarterly Reporting Form available on the Department's website <http://www.dot.il.gov/const/conforms.html>.

The report shall be submitted no later than the 15<sup>th</sup> of the month following the end of each quarter (i.e. April 15 for the January – March reporting period). The form shall be emailed to [DOT.PLA.Reporting@illinois.gov](mailto:DOT.PLA.Reporting@illinois.gov) or faxed to (217) 524-4922.

Any costs associated with complying with this provision shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

Illinois Department of Transportation  
**PROJECT LABOR AGREEMENT**

This Project Labor Agreement (“PLA” or “Agreement”) is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2013, by and between the Illinois Department of Transportation (“IDOT” or “Department”) in its proprietary capacity, and each relevant Illinois AFL-CIO Building Trades signatory hereto as determined by the Illinois AFL-CIO Statewide Project Labor Agreement Committee on behalf of each of its affiliated members (individually and collectively, the “Unions”). This PLA shall apply to Construction Work (as defined herein) to be performed by IDOT’s Prime Contractor and each of its subcontractors of whatever tier (“Subcontractor” or “Subcontractors”) on Contract No. **60L69** (hereinafter, the “Project”).

**ARTICLE 1 - INTENT AND PURPOSES**

- 1.1 This PLA is entered into in accordance with the Project Labor Agreement Act (“Act”, 30 ILCS 571). It is mutually understood and agreed that the terms and conditions of this PLA are intended to promote the public interest in obtaining timely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among the parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays, or other disruptions to the prosecution of the work. The parties acknowledge the obligations of the Contractors and Subcontractors to comply with the provisions of the Act. The parties will work with the Contractors and Subcontractors within the parameters of other statutory and regulatory requirements to implement the Act’s goals and objectives.
- 1.2 As a condition of the award of the contract for performance of work on the Project, IDOT’s Prime Contractor and each of its Subcontractors shall execute a “Contractor Letter of Assent”, in the form attached hereto as Exhibit A, prior to commencing Construction Work on the Project. The Contractor shall submit a Subcontractor’s Contractor Letter of Assent to the Department prior to the Subcontractor’s performance of Construction Work on the Project. Upon request copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization consistent with this Agreement and at the pre-job conference referenced in Article III, Section 3.1.
- 1.3 Each Union affiliate and separate local representing workers engaged in Construction Work on the Project in accordance with this PLA are bound to this agreement by the Illinois AFL-CIO Statewide Project Labor Agreement Committee which is the central committee established with full authority to negotiate and sign PLAs with the State on behalf of all respective crafts. Upon their signing the Contractor Letter of Assent, the Prime Contractor, each Subcontractor, and the individual Unions shall thereafter be deemed a party to this PLA. No party signatory to this PLA shall, contract or subcontract, nor permit any other person, firm, company, or entity to contract or subcontract for the performance of Construction Work for the Project to any person, firm, company, or entity that does not agree in writing to become bound for the term of this Project by the terms of this PLA prior to commencing such work and to the applicable area-wide collective bargaining agreement(s) with the Union(s) signatory hereto.

- 1.4 It is understood that the Prime Contractor(s) and each Subcontractor will be considered and accepted by the Unions as separate employers for the purposes of collective bargaining, and it is further agreed that the employees working under this PLA shall constitute a bargaining unit separate and distinct from all others. The parties hereto also agree that this PLA shall be applicable solely with respect to this Project, and shall have no bearing on the interpretation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of this Project.
- 1.5 In the event of a variance or conflict, whether explicit or implicit, between the terms and conditions of this PLA and the provisions of any other applicable national, area, or local collective bargaining agreement, the terms and conditions of this PLA shall supersede and control. For any work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, the National Agreement of the International Union of Elevator Constructors, and for any instrument calibration work and loop checking performed under the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, the preceding sentence shall apply only with respect to Articles I, II, V, VI, and VII.
- 1.6 Subject to the provisions of paragraph 1.5 of this Article, it is the parties' intent to respect the provisions of any other collective bargaining agreements that may now or hereafter pertain, whether between the Prime Contractor and one or more of the Unions or between a Subcontractor and one or more of the Unions. Accordingly, except and to the extent of any contrary provision set forth in this PLA, the Prime Contractor and each of its Subcontractors agrees to be bound and abide by the terms of the following in order of precedence: (a) the applicable collective bargaining agreement between the Prime Contractor and one or more of the Unions made signatory hereto; (b) the applicable collective bargaining agreement between a Subcontractor and one or more of the Unions made signatory hereto; or (c) the current applicable area collective bargaining agreement for the relevant Union that is the agreement certified by the Illinois Department of Labor for purposes of establishing the Prevailing Wage applicable to the Project. The Union will provide copies of the applicable collective bargaining agreements pursuant to part (c) of the preceding sentence to the Prime Contractor. Assignments by the Contractors or Subcontractors amongst the trades shall be consistent with area practices; in the event of unresolved disagreements as to the propriety of such assignments, the provisions of Article VI shall apply.
- 1.7 Subject to the limitations of paragraphs 1.4 to 1.6 of this Article, the terms of each applicable collective bargaining agreement as determined in accordance with paragraph 1.6 are incorporated herein by reference, and the terms of this PLA shall be deemed incorporated into such other applicable collective bargaining agreements only for purposes of their application to the Project.

- 1.8 To the extent necessary to comply with the requirements of any fringe benefit fund to which the Prime Contractor or Subcontractor is required to contribute under the terms of an applicable collective bargaining agreement pursuant to the preceding paragraph, the Prime Contractor or Subcontractor shall execute all "Participation Agreements" as may be reasonably required by the Union to accomplish such purpose; provided, however, that such Participation Agreements shall, when applicable to the Prime Contractor or Subcontractor solely as a result of this PLA, be amended as reasonably necessary to reflect such fact. Upon written notice in the form of a lien of a Contractor's or Subcontractor's delinquency from any applicable fringe benefit fund, IDOT will withhold from the Contractor's periodic pay request an amount sufficient to extinguish any delinquency obligation of the Contractor or Subcontractor arising out of the Project.
- 1.9 In the event that the applicable collective bargaining agreement between a Prime Contractor and the Union or between the Subcontractor and the Union expires prior to the completion of this Project, the expired applicable contract's terms will be maintained until a new applicable collective bargaining agreement is ratified. The wages and fringe benefits included in any new applicable collective bargaining agreement will apply on and after the effective date of the newly negotiated collective bargaining agreement, except to the extent wage and fringe benefit retroactivity is specifically agreed upon by the relevant bargaining parties.

## **ARTICLE II – APPLICABILITY, RECOGNITION, AND COMMITMENTS**

- 2.1 The term Construction Work as used herein shall include all "construction, demolition, rehabilitation, renovation, or repair" work performed by a "laborer or mechanic" at the "site of the work" for the purpose of "building" the specific structures and improvements that constitute the Project. Terms appearing within quotation marks in the preceding sentence shall have the meaning ascribed to them pursuant to 29 CFR Part 5 and Illinois labor laws.
- 2.2 By executing the Letters of Assent, Prime Contractor and each of its Subcontractors recognizes the Unions signatory to this PLA as the sole and exclusive bargaining representatives for their craft employees employed on the jobsite for this Project. Unions who are signatory to this PLA will have recognition on the Project for their craft.
- 2.3 The Prime Contractor and each of its Subcontractors retains and shall be permitted to exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this PLA or by the terms and conditions of the applicable collective bargaining agreement.
- 2.4 Except to the extent contrary to an express provision of the relevant collective bargaining agreement, equipment or materials used in the Project may be pre-assembled or pre-fabricated, and there shall be no refusal by the Union to handle, transport, install, or connect such equipment or materials. Equipment or materials delivered to the job-site will be unloaded and handled promptly without regard to potential jurisdictional disputes; any such disputes shall be handled in accordance with the provisions of this PLA.

- 2.5 The parties are mutually committed to promoting a safe working environment for all personnel at the job-site. It shall be the responsibility of each employer to which this PLA applies to provide and maintain safe working conditions for its employees, and to comply with all applicable federal, state, and local health and safety laws and regulations.
- 2.6 The use or furnishing of alcohol or drugs and the conduct of any other illegal activity at the job-site is strictly prohibited. The parties shall take every practical measure consistent with the terms of applicable collective bargaining agreements to ensure that the job-site is free of alcohol and drugs.
- 2.7 All parties to this PLA agree that they will not discriminate against any employee based on race, creed, religion, color, national origin, union activity, age, gender or sexual orientation and shall comply with all applicable federal, state, and local laws.
- 2.8 In accordance with the Act and to promote diversity in employment, IDOT will establish, in cooperation with the other parties, the apprenticeship hours which are to be performed by minorities and females on the Project. IDOT shall consider the total hours to be performed by these underrepresented groups, as a percentage of the workforce, and create aspirational goals for each Project, based on the level of underutilization for the service area of the Project (together "Project Employment Objectives"). IDOT shall provide a quarterly report regarding the racial and gender composition of the workforce on the Project.

Persons currently lacking qualifications to enter apprenticeship programs will have the opportunity to obtain skills through basic training programs as have been established by the Department. The parties will endeavor to support such training programs to allow participants to obtain the requisite qualifications for the Project Employment Objectives.

The parties agree that all Contractors and Subcontractors working on the Project shall be encouraged to utilize the maximum number of apprentices as permitted under the terms of the applicable collective bargaining agreements to realize the Project Employment Objectives.

The Unions shall assist the Contractor and each Subcontractor in efforts to satisfy Project Employment Objectives. A Contractor or Subcontractor may request from a Union specific categories of workers necessary to satisfy Project Employment Objectives. The application of this section shall be consistent with all local Union collective bargaining agreements, and the hiring hall rules and regulations established for the hiring of personnel, as well as the apprenticeship standards set forth by each individual Union.

- 2.9 The parties hereto agree that engineering/architectural/surveying consultants' materials testing employees are subject to the terms of this PLA for Construction Work performed for a Contractor or Subcontractor on this Project. These workers shall be fully expected to objectively and responsibly perform their duties and obligations owed to the Department without regard to the potential union affiliation of such employees or of other employees on the Project.

- 2.10 This Agreement shall not apply to IDOT employees or employees of any other governmental entity.

### **ARTICLE III - ADMINISTRATION OF AGREEMENT**

- 3.1 In order to assure that all parties have a clear understanding of the PLA, and to promote harmony, at the request of the Unions a post-award pre-job conference will be held among the Prime Contractor, all Subcontractors and Union representatives prior to the start of any Construction Work on the Project. No later than the conclusion of such pre-job conference, the parties shall, among other matters, provide to one another contact information for their respective representatives (including name, address, phone number, facsimile number, e-mail). Nothing herein shall be construed to limit the right of the Department to discuss or explain the purpose and intent of this PLA with prospective bidders or other interested parties prior to or following its award of the job.
- 3.2 Representatives of the Prime Contractor and the Unions shall meet as often as reasonably necessary following award until completion of the Project to assure the effective implementation of this PLA.
- 3.3 Any notice contemplated under Article VI and VII of this Agreement to a signatory labor organization shall be made in writing to the Local Union with copies to the local union's International Representative.

### **ARTICLE IV - HOURS OF WORK AND GENERAL CONDITIONS**

- 4.1 The standard work day and work week for Construction Work on the Project shall be consistent with the respective collective bargaining agreements. In the event Project site or other job conditions dictate a change in the established starting time and/or a staggered lunch period for portions of the Project or for specific crafts, the Prime Contractor, relevant Subcontractors and business managers of the specific crafts involved shall confer and mutually agree to such changes as appropriate. If proposed work schedule changes cannot be mutually agreed upon between the parties, the hours fixed at the time of the pre-job meeting shall prevail.
- 4.2 Shift work may be established and directed by the Prime Contractor or relevant Subcontractor as reasonably necessary or appropriate to fulfill the terms of its contract with the Department. If used, shift hours, rates and conditions shall be as provided in the applicable collective bargaining agreement.
- 4.3 The parties agree that chronic and/or unexcused absenteeism is undesirable and must be controlled in accordance with procedures established by the applicable collective bargaining agreement. Any employee disciplined for absenteeism in accordance with such procedures shall be suspended from all work on the Project for not less than the maximum period permitted under the applicable collective bargaining agreement.
- 4.4 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, employment begins and ends at the Project site; employees shall be at their place of work at the starting time; and employees shall remain at their place of work until quitting time.



- 4.5 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, there shall be no limit on production by workmen, no restrictions on the full use of tools or equipment, and no restrictions on efficient use of manpower or techniques of construction other than as may be required by safety regulations.
- 4.6 The parties recognize that specialized or unusual equipment may be installed on the Project. In such cases, the Union recognizes the right of the Prime Contractor or Subcontractor to involve the equipment supplier or vendor's personnel in supervising the setting up of the equipment, making modifications and final alignment, and performing similar activities that may be reasonably necessary prior to and during the start-up procedure in order to protect factory warranties. The Prime Contractor or Subcontractor shall notify the Union representatives in advance of any work at the job-site by such vendor personnel in order to promote a harmonious relationship between the equipment vendor's personnel and other Project employees.
- 4.7 For the purpose of promoting full and effective implementation of this PLA, authorized Union representatives shall have access to the Project job-site during scheduled work hours. Such access shall be conditioned upon adherence to all reasonable visitor and security rules of general applicability that may be established for the Project site at the pre-job conference or from time to time thereafter.

**ARTICLE V – GRIEVANCE PROCEDURES FOR DISPUTES ARISING UNDER A PARTICULAR COLLECTIVE BARGAINING AGREEMENT**

- 5.1 In the event a dispute arises under a particular collective bargaining agreement specifically not including jurisdictional disputes referenced in Article VI below, said dispute shall be resolved by the Grievance/Arbitration procedure of the applicable collective bargaining agreement. The resulting determination from this process shall be final and binding on all parties bound to its process.
- 5.2 Employers covered under this Agreement shall have the right to discharge or discipline any employee who violates the provisions of this Agreement. Such discharge or discipline by a contractor or subcontractor shall be subject to Grievance/Arbitration procedure of the applicable collective bargaining agreement only as to the fact of such violation of this agreement. If such fact is established, the penalty imposed shall not be disturbed. Work at the Project site shall continue without disruption or hindrance of any kind as a result of a Grievance/Arbitration procedure under this Article.
- 5.3 In the event there is a deadlock in the foregoing procedure, the parties agree that the matter shall be submitted to arbitration for the selection and decision of an Arbitrator governed under paragraph 6.8.

**ARTICLE VI –DISPUTES: GENERAL PRINCIPLES**

- 6.1 This Agreement is entered into to prevent strikes, lost time, lockouts and to facilitate the peaceful adjustment of jurisdictional disputes in the building and construction industry and to prevent waste and unnecessary avoidable delays and expense, and for the further purpose of at all times securing for the employer sufficient skilled workers.

- 6.2 A panel of Permanent Arbitrators are attached as addendum (A) to this agreement. By mutual agreement between IDOT and the Unions, the parties can open this section of the agreement as needed to make changes to the list of permanent arbitrators.
- 6.3 The PLA Jurisdictional Dispute Resolution Process (“Process”) sets forth the procedures below to resolve jurisdictional disputes between and among Contractors, Subcontractors, and Unions engaged in the building and construction industry. Further, the Process will be followed for any grievance or dispute arising out of the interpretation or application of this PLA by the parties except for the prohibition on attorneys contained in 6.11. All decisions made through the Process are final and binding upon all parties.

### **DISPUTE PROCESS**

- 6.4 Administrative functions under the Process shall be performed through the offices of the President and/or Secretary-Treasurer of the Illinois State Federation of Labor, or their designated representative, called the Administrator. In no event shall any officer, employee, agent, attorney, or other representative of the Illinois Federation of Labor, AFL-CIO be subject to any subpoena to appear or testify at any jurisdictional dispute hearing.
- 6.5 There shall be no abandonment of work during any case participating in this Process or in violation of the arbitration decision. All parties to this Process release the Illinois State Federation of Labor (“Federation”) from any liability arising from its action or inaction and covenant not to sue the Federation, nor its officers, employees, agents or attorneys.
- 6.6 In the event of a dispute relating to trade or work jurisdiction, all parties, including the employers, Contractors or Subcontractors, agree that a final and binding resolution of the dispute shall be resolved as follows:
- (a) Representatives of the affected trades and the Contractor or Subcontractor shall meet on the job site within two (2) business days after receiving written notice in an effort to resolve the dispute. (In the event there is a dispute between local unions affiliated with the same International Union, the decision of the General President, or his/her designee, as the internal jurisdictional authority of that International Union, shall constitute a final and binding decision and determination as to the jurisdiction of work.)
  - (b) If no settlement is achieved subsequent to the preceding Paragraph, the matter shall be referred to the local area Building & Construction Trades Council, which shall meet with the affected trades within two (2) business days subsequent to receiving written notice. In the event the parties do not wish to avail themselves of the local Building & Construction Trades Council, the parties may elect to invoke the services of their respective International Representatives with no extension of the time limitations. An agreement reached at this Step shall be final and binding upon all parties.

(c) If no settlement agreement is reached during the proceedings contemplated by Paragraphs “a” or “b” above, the matter shall be immediately referred to the Illinois Jurisdictional Dispute Process for final and binding resolution of said dispute. Said referral submission shall be in writing and served upon the Illinois State Federation of Labor, or the Administrator, pursuant to paragraph 6.4 of this agreement. The Administrator shall, within three (3) days, provide for the selection of an available Arbitrator to hear said dispute within this time period. Upon good cause shown and determined by the Administrator, an additional three (3) day extension for said hearing shall be granted at the sole discretion of the Administrator. Only upon mutual agreement of all parties may the Administrator extend the hearing for a period in excess of the time frames contemplated under this Paragraph. Business days are defined as Monday through Friday, excluding contract holidays.

6.7 The primary concern of the Process shall be the adjustment of jurisdictional disputes arising out of the Project. A sufficient number of Arbitrators shall be selected from list of approved Arbitrators as referenced Sec. 6.2 and shall be assigned per Sec. 6.8. Decisions shall be only for the Project and shall become effective immediately upon issuance and complied with by all parties. The authority of the Arbitrator shall be restricted and limited specifically to the terms and provisions of Article VI and generally to this Agreement as a whole.

6.8 The Arbitrator chosen shall be randomly selected based on the list of Arbitrators in Sec. 6.2 and geographical location of the jurisdictional dispute and upon his/her availability, and ability to conduct a Hearing within two (2) business days of said notice. The Arbitrator may issue a “bench” decision immediately following the Hearing or he/she may elect to only issue a written decision, said decision must be issued within two (2) business days subsequent to the completion of the Hearing. Copies of all notices, pleadings, supporting memoranda, decisions, etc. shall be provided to all disputing parties and the Illinois State Federation of Labor.

Any written decision shall be in accordance with this Process and shall be final and binding upon all parties to the dispute and may be a “short form” decision. Fees and costs of the arbitrator shall be divided evenly between the contesting parties except that any party wishing a full opinion and decision beyond the short form decision shall bear the reasonable fees and costs of such full opinion. The decision of the Arbitrator shall be final and binding upon the parties hereto, their members, and affiliates.

In cases of jurisdictional disputes or other disputes between a signatory labor organization and another labor organization, both of which is an affiliate or member of the same International Union, the matter or dispute shall be settled in the manner set forth by their International Constitution and/or as determined by the International Union’s General President whose decision shall be final and binding upon all parties. In no event shall there be an abandonment of work.

6.9 In rendering a decision, the Arbitrator shall determine:

(a) First, whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between National or International Unions to the dispute or agreements between local unions involved in the dispute, governs;

- (b) Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality; and,
- (c) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.
- 6.10 The Arbitrator shall set forth the basis for his/her decision and shall explain his/her findings regarding the applicability of the above criteria. If lower ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the Project. Agreements of Record, for other PLA projects, are applicable only to those parties signatory to such agreements. Decisions of Record are those that were either attested to by the former Impartial Jurisdictional Disputes Board or adopted by the National Arbitration Panel.
- 6.11 All interested parties, as determined by the Arbitrator, shall be entitled to make presentations to the Arbitrator. Any interested labor organization affiliated to the PLA Committee and party present at the Hearing, whether making a presentation or not, by such presence shall be deemed to accept the jurisdiction of the Arbitrator and to agree to be bound by its decision. In addition to the representative of the local labor organization, a representative of the labor organization's International Union may appear on behalf of the parties. Each party is responsible for arranging for its witnesses. In the event an Arbitrator's subpoena is required, the party requiring said subpoena shall prepare the subpoena for the Arbitrator to execute. Service of the subpoena upon any witness shall be the responsibility of the issuing party.

Attorneys shall not be permitted to attend or participate in any portion of a Hearing.

The parties are encouraged to determine, prior to Hearing, documentary evidence which may be presented to the Arbitrator on a joint basis.

- 6.12 The Order of Presentation in all Hearings before an Arbitrator shall be
- I. Identification and Stipulation of the Parties
  - II. Unions(s) claiming the disputed work presents its case
  - III. Union(s) assigned the disputed work presents its case
  - IV. Employer assigning the disputed work presents its case
  - V. Evidence from other interested parties (i.e., general contractor, project manager, owner)
  - VI. Rebuttal by union(s) claiming the disputed work
  - VII. Additional submissions permitted and requested by Arbitrator
  - VIII. Closing arguments by the parties
- 6.13 All parties bound to the provisions of this Process hereby release the Illinois State Federation of Labor and IDOT, their respective officers, agents, employees or designated representatives, specifically including any Arbitrator participating in said Process, from any and all liability or claim, of whatsoever nature, and specifically incorporating the protections provided in the Illinois Arbitration Act, as amended from time to time.
- 6.14 The Process, as an arbitration panel, nor its Administrator, shall have any authority to undertake any action to enforce its decision(s). Rather, it shall be the responsibility of the prevailing party to seek appropriate enforcement of a decision, including findings, orders or awards of the Arbitrator or Administrator determining non-compliance with a prior award or decision.
- 6.15 If at any time there is a question as to the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process, the primary responsibility for any determination of the arbitrability of a dispute and the jurisdiction of the Arbitrator shall be borne by the party requesting the Arbitrator to hear the underlying jurisdictional dispute. The affected party or parties may proceed before the Arbitrator even in the absence or one or more stipulated parties with the issue of jurisdiction as an additional item to be decided by the Arbitrator. The Administrator may participate in proceedings seeking a declaration or determination that the underlying dispute is subject to the jurisdiction and process of the Illinois Jurisdictional Dispute Resolution Process. In any such proceedings, the non-prevailing party and/or the party challenging the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process shall bear all the costs, expenses and attorneys' fees incurred by the Illinois Jurisdictional Dispute Resolution Process and/or its Administrator in establishing its jurisdiction.

#### **ARTICLE VII - WORK STOPPAGES AND LOCKOUTS**

- 7.1 During the term of this PLA, no Union or any of its members, officers, stewards, employees, agents or representatives shall instigate, support, sanction, maintain, or participate in any strike, picketing, walkout, work stoppage, slow down or other activity that interferes with the routine and timely prosecution of work at the Project site or at any other contractor's or supplier's facility that is necessary to performance of work at the Project site. Hand billing at the Project site during the designated lunch period and before commencement or following conclusion of the established standard workday shall not, in itself, be deemed an activity that interferes with the routine and timely prosecution of work on the Project.

7.2 Should any activity prohibited by paragraph 7.1 of this Article occur, the Union shall undertake all steps reasonably necessary to promptly end such prohibited activities.

7.2.A No Union complying with its obligations under this Article shall be liable for acts of employees for which it has no responsibility or for the unauthorized acts of employees it represents. Any employee who participates or encourages any activity prohibited by paragraph 7.1 shall be immediately suspended from all work on the Project for a period equal to the greater of (a) 60 days; or (b) the maximum disciplinary period allowed under the applicable collective bargaining agreement for engaging in comparable unauthorized or prohibited activity.

7.2.B Neither the PLA Committee nor its affiliates shall be liable for acts of employees for which it has no responsibility. The principal officer or officers of the PLA Committee will immediately instruct, order and use the best efforts of his office to cause the affiliated union or unions to cease any violations of this Article. The PLA Committee in its compliance with this obligation shall not be liable for acts of its affiliates. The principal officer or officers of any involved affiliate will immediately instruct, order or use the best effort of his office to cause the employees the union represents to cease any violations of this Article. A union complying with this obligation shall not be liable for unauthorized acts of employees it represents. The failure of the Contractor to exercise its rights in any instance shall not be deemed a waiver of its rights in any other instance.

During the term of this PLA, the Prime Contractor and its Subcontractors shall not engage in any lockout at the Project site of employees covered by this Agreement.

7.3 Upon notification of violations of this Article, the principal officer or officers of the local area Building and Construction Trades Council, and the Illinois AFL-CIO Statewide Project Labor Agreement Committee as appropriate, will immediately instruct, order and use their best efforts to cause the affiliated union or unions to cease any violations of this Article. A Trades Council and the Committee otherwise in compliance with the obligations under this paragraph shall not be liable for unauthorized acts of its affiliates.

7.4 In the event that activities in violation of this Article are not immediately halted through the efforts of the parties, any aggrieved party may invoke the special arbitration provisions set forth in paragraph 7.5 of this Article.

7.5 Upon written notice to the other involved parties by the most expeditious means available, any aggrieved party may institute the following special arbitration procedure when a breach of this Article is alleged:

7.5.A The party invoking this procedure shall notify the individual designated as the Permanent Arbitrator pursuant to paragraph 6.8 of the nature of the alleged violation; such notice shall be by the most expeditious means possible. The initiating party may also furnish such additional factual information as may be reasonably necessary for the Permanent Arbitrator to understand the relevant circumstances. Copies of any written materials provided to the arbitrator shall also be contemporaneously provided by the most expeditious means possible to the party alleged to be in violation and to all other involved parties.

- 7.5.B Upon receipt of said notice the Permanent Arbitrator shall set and hold a hearing within twenty-four (24) hours if it is contended the violation is ongoing, but not before twenty-four (24) hours after the written notice to all parties involved as required above.
- 7.5.C The Permanent Arbitrator shall notify the parties by facsimile or any other effective written means, of the place and time chosen by the Permanent Arbitrator for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Permanent Arbitrator.
- 7.5.D The sole issue at the hearing shall be whether a violation of this Article has, in fact, occurred. An Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The Permanent Arbitrator may order cessation of the violation of this Article, and such Award shall be served on all parties by hand or registered mail upon issuance.
- 7.5.E Such Award may be enforced by any court of competent jurisdiction upon the filing of the Award and such other relevant documents as may be required. Facsimile or other hardcopy written notice of the filing of such enforcement proceedings shall be given to the other relevant parties. In a proceeding to obtain a temporary order enforcing the Permanent Arbitrator's Award as issued under this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the Permanent Arbitrator's Award shall be served on all parties by hand or by delivery to their last known address or by registered mail.
- 7.6 Individuals found to have violated the provisions of this Article are subject to immediate termination. In addition, IDOT reserves the right to terminate this PLA as to any party found to have violated the provisions of this Article.
- 7.7 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance therewith are hereby waived by parties to whom they accrue.
- 7.8 The fees and expenses of the Permanent Arbitrator shall be borne by the party or parties found in violation, or in the event no violation is found, such fees and expenses shall be borne by the moving party.

**ARTICLE VIII – TERMS OF AGREEMENT**

- 8.1 If any Article or provision of this Agreement shall be declared invalid, inoperative or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the application of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.
- 8.2 This Agreement shall be in full force as of and from the date of the Notice of Award until the Project contract is closed.
- 8.3 This PLA may not be changed or modified except by the subsequent written agreement of the parties. All parties represent that they have the full legal authority to enter into this PLA. This PLA may be executed by the parties in one or more counterparts.
- 8.4 Any liability arising out of this PLA shall be several and not joint. IDOT shall not be liable to any person or other party for any violation of this PLA by any other party, and no Contractor or Union shall be liable for any violation of this PLA by any other Contractor or Union.
- 8.5 The failure or refusal of a party to exercise its rights hereunder in one or more instances shall not be deemed a waiver of any such rights in respect of a separate instance of the same or similar nature.

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Addendum A

IDOT Slate of Permanent Arbitrators

1. Bruce Feldacker
2. Thomas F. Gibbons
3. Edward J. Harrick
4. Brent L. Motchan
5. Robert Perkovich
6. Byron Yaffee
7. Glenn A. Zipp

**Execution Page**

***Illinois Department of Transportation***

\_\_\_\_\_  
Omer Osman, Director of Highways

\_\_\_\_\_  
Matthew Hughes, Director Finance & Administration

\_\_\_\_\_  
Michael A. Forti, Chief Counsel

\_\_\_\_\_  
Ann L. Schneider, Secretary

\_\_\_\_\_  
(Date)

***Illinois AFL-CIO Statewide Project Labor Agreement Committee, representing the Unions listed below:***

\_\_\_\_\_  
(Date)

List Unions:

**\*\*RETURN WITH BID\*\***

Exhibit A - Contractor Letter of Assent

\_\_\_\_\_  
(Date)

To All Parties:

In accordance with the terms and conditions of the contract for Construction Work on [Contract No. 60L69 ], this Letter of Assent hereby confirms that the undersigned Prime Contractor or Subcontractor agrees to be bound by the terms and conditions of the Project Labor Agreement established and entered into by the Illinois Department of Transportation in connection with said Project.

It is the understanding and intent of the undersigned party that this Project Labor Agreement shall pertain only to the identified Project. In the event it is necessary for the undersigned party to become signatory to a collective bargaining agreement to which it is not otherwise a party in order that it may lawfully make certain required contributions to applicable fringe benefit funds, the undersigned party hereby expressly conditions its acceptance of and limits its participation in such collective bargaining agreement to its work on the Project.

\_\_\_\_\_  
(Authorized Company Officer)

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

**\*\*RETURN WITH BID\*\***

## **BEDDING MATERIAL, SPECIAL**

Description. This work shall consist of furnishing and placing bedding material to the lines and grades as shown on the plans. This work shall be in accordance with Section 281 of the Standard Specifications except as noted herein.

General. The bedding material shall be gradation RR 1.

Method of Measurement. This work will be measured for payment in place and the volume computed in cubic yards. Filter fabric which will be placed and secured prior to the bedding will be measured for payment according to Article 282.08.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for BEDDING MATERIAL, SPECIAL. Filter fabric will be paid for according to Article 282.09.

## **TEMPORARY SHEET PILING**

Effective: September 2, 1994

Revised: January 31, 2012

Description. This work shall consist of furnishing, driving, adjusting for stage construction when required and subsequent removal of the sheet piling according to the dimensions and details shown on the plans and according to the applicable portions of Section 512 of the Standard Specifications.

This work shall also include furnishing, installing and subsequent removal of all miscellaneous steel shapes, plates and connecting hardware when required to attach the sheeting to an existing substructure unit and/or to facilitate stage construction.

General. The Contractor may propose other means of supporting the sides of the excavation provided they are done so at no extra cost to the department. If the Contractor elects to vary from the design requirements shown on the plans, the revised design calculations and details shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Material. The sheet piling shall be made of steel and may be new or used material, at the option of the Contractor. The sheet piling shall have a minimum section modulus as shown on the plans or in the approved Contractor's alternate design. The sheeting shall have a minimum yield strength of 38.5 ksi (265 MPa) unless otherwise specified. The sheeting, used by the Contractor, shall be identifiable and in good condition free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer's approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor's expense.

Construction. The Contractor shall verify locations of all underground utilities before driving any sheet piling. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design. The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related excavation. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Department prior to allowing excavation adjacent to the sheet piling in question. The Contractor shall not excavate below the maximum excavation line shown on the plans without the prior permission of the Engineer. The sheet piling shall remain in place until the Engineer determines it is no longer required.

The sheet piling shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the sheet piling leaving the remainder in place. The remaining sheet piling shall be a minimum of 12 in. (300 mm) below the finished grade or as directed by the Engineer. Removed sheet piling shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where its presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven through or around with normal driving procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary sheet piling will be measured for payment in place in square feet (square meter). Any temporary sheet piling cut off, left in place, or driven to dimensions other than those shown on the contract plans without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's expense.

If the Contractor is unable to drive the sheeting to the specified tip elevation(s) and can demonstrate that any further effort to drive it would only result in damaging the sheeting, then the Contractor shall be paid based on the plan quantity of temporary sheeting involved. However, no additional payment will be made for any walers, bracing, or other supplement to the temporary sheet piling, which may be required as a result of the re-evaluation in order to insure the original design intent was met. Portions of the temporary sheet piling left in place for reuse in later stages of construction shall only be measured for payment once.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for TEMPORARY SHEET PILING.

Payment for any excavation performed in conjunction with this work will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

### **PIPE UNDERDRAINS FOR STRUCTURES**

Effective: May 17, 2000

Revised: January 22, 2010

Description. This work shall consist of furnishing and installing a pipe underdrain system as shown on the plans, as specified herein, and as directed by the Engineer.

Materials. Materials shall meet the requirements as set forth below:

The perforated pipe underdrain shall be according to Article 601.02 of the Standard Specifications. Outlet pipes or pipes connecting to a separate storm sewer system shall not be perforated.

The drainage aggregate shall be a combination of one or more of the following gradations, FA1, FA2, CA5, CA7, CA8, CA11, or CA13 thru 16, according to Sections 1003 and 1004 of the Standard Specifications.

The fabric surrounding the drainage aggregate shall be Geotechnical Fabric for French Drains according to Article 1080.05 of the Standard Specifications.

Construction Requirements. All work shall be according to the applicable requirements of Section 601 of the Standard Specifications except as modified below.

The pipe underdrains shall consist of a perforated pipe drain situated at the bottom of an area of drainage aggregate wrapped completely in geotechnical fabric and shall be installed to the lines and gradients as shown on the plans.

Method of Measurement. Pipe Underdrains for Structures shall be measured for payment in feet (meters), in place. Measurement shall be along the centerline of the pipe underdrains. All connectors, outlet pipes, elbows, and all other miscellaneous items shall be included in the measurement. Concrete headwalls shall be included in the cost of Pipe Underdrains for Structures, but shall not be included in the measurement for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for PIPE UNDERDRAINS FOR STRUCTURES of the diameter specified. Furnishing and installation of the drainage aggregate, geotechnical fabric, forming holes in structural elements and any excavation required, will not be paid for separately, but shall be included in the cost of the pipe underdrains for structures.

**PERMANENT STEEL SHEET PILING (LRFD)**

Effective: January 31, 2012

Revised: August 17, 2012

Description. This work shall consist of furnishing and installing the permanent sheet piling to the limits and tolerances shown on the plans according to Section 512 of the Standard Specifications.

Material. The sheet piling shall be made of steel and shall be new material. Unless otherwise specified the sheeting shall have a minimum yield strength of 50 ksi (345 MPa) according to ASTM A 572. The sheeting shall be identifiable and free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer's approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor's expense.

The Contractor shall furnish a sheet pile section, to be used for each wall section, with a published section modulus equal to or larger than that specified on the plans.

The selection of the sheet pile section shall not relieve the Contractor of the responsibility to satisfy all details including minimum clearances, cover, reinforcement, shear stud locations, interlocking, and field cutting. Any modifications of the plans to accommodate the Contractor's selection shall be paid for by the Contractor and subject to the approval of the Engineer.

Construction. The Contractor shall verify locations of all underground utilities before driving any sheet piling. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design. The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related construction. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Department prior to allowing construction adjacent to the sheet piling in question.

Obstructions. Obstructions shall be defined as any object (such as but not limited to, boulders, logs, old foundations, etc.) that cannot be driven through with normal driving procedures, but requires special equipment 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 break up, push aside, or remove the obstruction.

Method of Measurement. This work will be measured in place in square feet (square meters). Sheet piling associated with other work in this contract or for permanent sheet piling that is cut off or driven beyond those dimensions shown on the plans will not be measured for payment.

Obstruction mitigation shall be paid for according to Article 109.04.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for PERMANENT STEEL SHEET PILING at the location shown on the plans.

## **BRIDGE DECK CONSTRUCTION**

Effective: October 22, 2013

### **Revise the Second Paragraph of Article 503.06(b) to read as follows.**

“When the Contractor uses cantilever forming brackets on exterior beams or girders, additional requirements shall be as follows.”

### **Revise Article 503.06(b)(1) to read as follows.**

“(1) Bracket Placement. The spacing of brackets shall be per the manufacture published design specifications for the size of the overhang and the construction loads anticipated. The resulting force of the leg brace of the cantilever bracket should bear on the web. In addition, for beams or girders where the rail supporting the finishing machine is supported outside the exterior girder by a distance of more than half the girder depth, the bracket should bear on the web within 6 inches (150 mm) from the top of the bottom flange of the girder.”

### **Revise Article 503.06(b)(2) to read as follows.**

“(2) Beam Ties. The top flange of the beams or girders supporting the cantilever forming brackets shall be tied to the bottom flange of the next interior beam. The ties shall be spaced at 4 ft (1.2 m) centers maximum. Ties shall be a minimum of 1/4 inch (6 mm) diameter threaded rod with a mechanism for drawing the tie taut. The ties shall utilize hanger brackets or clips which hook onto the flange without the assistance of welding or drilling to the any part of the beam.”

### **Revise Article 503.06(b)(3) to read as follows.**

“(3) Beam Blocks. Suitable beam blocks of 4 x 4 (100 x 100 mm) timbers or metal structural shapes of equivalent strength or better, acceptable to the Engineer, shall be wedged between the webs of the two beams tied together, within 6 inches (150 mm) of the bottom flange at each location where they are tied. When it is required but not feasible to have the resulting force from the leg brace of the cantilever brackets transmitted to the web within 6 inches (150 mm) of the bottom flange, then additional blocking shall be utilized spaced at each bracket but not less than 30 inches (750 mm) apart to transmit the resulting force to within 6 inches (150 mm) of the bottom flange of the next interior beam or girder.”

### **Delete the last paragraph of Article 503.06(b).**



**Revise the third paragraph of Article 503.16 to read as follows.**

“Fogging equipment shall be in operation unless the evaporation rate is less than 0.1 Lb/sq ft/hour (0.5kg/sq m/hour) and the Engineer gives permission to stop. The evaporation rate shall be determined according to the following formula.

$$E = (T_c^{2.5} - rT_a^{2.5})(1 + 0.4V)x10^{-6} \text{ (English)}$$

$$E = 5[(T_c + 18)^{2.5} - r(T_a + 18)^{2.5}](V + 4)x10^{-6} \text{ (Metric)}$$

Where:

$E$  = Evaporation Rate, lb/ft<sup>2</sup>/h (kg/sq m/h)

$T_c$  = Concrete temperature, °F (°C)

$T_a$  = Air temperature, °F (°C)

$r$  = Relative humidity in percent/100

$V$  = Wind velocity, mph (km/h)

The Contractor shall provide temperature, relative humidity, and wind speed measuring equipment. Fogging equipment shall be adequate to reach or cover the entire pour from behind the finishing machine or vibrating screed to the point of curing covering application, and shall be operated in a manner which shall not accumulate water on the deck until the curing covering has been placed.”

**Revise the first sentence of the third paragraph of Article 503.16(a)(1) to read as follows.**

“At the Contractors option, a vibrating screed may be used in lieu of the finishing machine for superstructures with a pour width less than 24 ft.(7.3 m)”

**Delete the fifth paragraph of 503.16(a)(1).**

**Replace the second sentence of the first paragraph of Article 1020.13(a)(5) with the follows.**

“Cotton mats in poor condition will not be allowed. The cotton mats shall be placed in a manner which will not create indentations greater than 1/4 inch (6 mm) in the concrete surface. Minor marring of the surface is tolerable and is secondary to the importance of timely curing.”

**Revise the Article 1020.14(b) to read as follows.**

“(b) Concrete in Structures. Concrete may be placed when the air temperature is above 40 °F (4 °C) and rising, and concrete placement shall stop when the falling temperature reaches 45 °F (7 °C) or below, unless otherwise approved by the Engineer.

- (1) Superstructure Concrete. For concrete in superstructures the Contractor shall schedule placing and finishing of the concrete during hours in which the ambient Air temperature is forecast to be lower than 85 °F (30 °C). The temperature of the concrete immediately before placement shall be a minimum of 50 °F (10 °C) and a maximum of 85 °F (30 °C).
- (2) Non-Superstructure Concrete. The temperature of the concrete immediately before placement shall be a minimum of 50 °F (10 °C) and a maximum of 90 °F (32 °C). If concrete is pumped, the temperature of the concrete at point of placement shall be a minimum of 50 °F (10 °C) and a maximum of 90 °F (32 °C).

When insulated forms are used according to Article 1020.13(d)(1), the maximum temperature of the concrete mixture immediately before placement shall be 80 °F (25 °C).

When concrete is placed in contact with previously placed concrete, the temperature of the freshly mixed concrete may be increased to 80 °F (25 °C) by the Contractor to offset anticipated heat loss.”

**Revise Article 1103.13(a) to read as follows.**

- “(a) Bridge Deck. The finishing machine shall be equipped with: (1) a mechanical strike off device; (2) either a rotating cylinder(s) or a longitudinal oscillating screed which transversely finishes the surface of the concrete. The Contractor may attach other equipment to the finishing machine to enhance the final finish when approved by the Engineer. The finishing machine shall produce a floor surface of uniform texture, free from porous areas, and with the required surface smoothness.

The finishing machine shall be operated on rails or other supports that will not deflect under the applied loads. The maximum length of rails support on top of existing beams and within the pour shall be 10 ft (3 m). The supports shall be adjustable for elevation and shall be completely in place for the full length of the area to be finished. The supports shall be approved by the Engineer before placing of the concrete is started.”

**Revise Article 1103.17(k) to read as follows.**

- “(k) Fogging Equipment. Fogging equipment shall be hand held fogging equipment for humidity Control. The equipment shall be capable of atomizing water to produce a fog blanket by the use of pressure 2500 psi minimum (17.24 MPa) and an industrial fire hose fogging nozzle or equivalent. Fogging equipment attached to the finishing machine will not be permitted.”

**LUMINAIRE**

Effective: January 1, 2012

Add the following to first paragraph of Article 1067(c) of the Standard Specifications:

“The reflector shall not be altered by paint or other opaque coatings which would cover or coat the reflecting surface. Control of the light distribution by any method other than the reflecting material and the aforementioned clear protective coating that will alter the reflective properties of the reflecting surface is unacceptable”

Add the following to Article 1067(f) of the Standard Specifications:

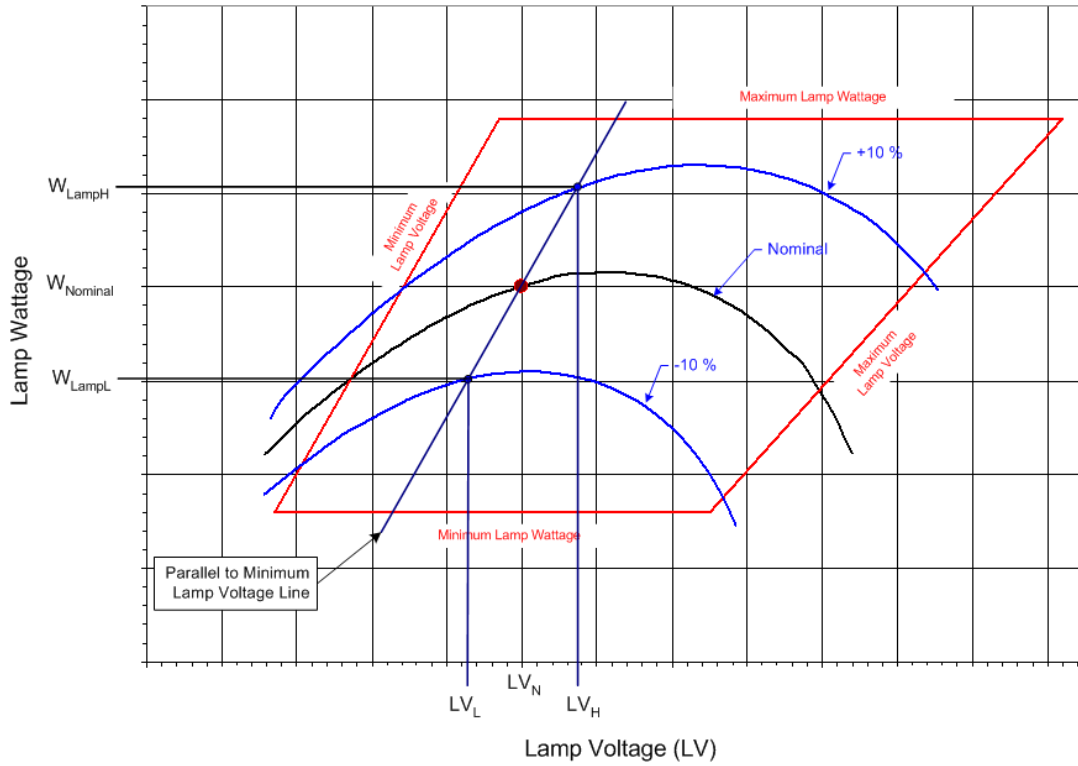
“The ballast shall be a High Pressure Sodium, high power factor, constant wattage auto-regulator, lead type (CWA) for operation on a nominal 240 volt system.”

Revise Article 1067(f)(1) of the Standard Specifications to read:

“The high pressure sodium, auto-regulator, lead type (CWA) ballast shall be designed to ANSI Standards and shall be designed and rated for operation on a nominal 240 volt system. The ballast shall provide positive lamp ignition at the input voltage of 216 volts. It shall operate the lamp over a range of input voltages from 216 to 264 volts without damage to the ballast. It shall provide lamp operation within lamp specifications for rated lamp life at input design voltage range. Operating characteristics shall produce output regulation not exceeding the following values:

<b>Nominal Ballast Wattage</b>	<b>Maximum Ballast Regulation</b>
750	25%
400	26%
310	26%
250	26%
150	24%
70	18%

For this measure, regulation shall be defined as the ratio of the lamp watt difference between the upper and lower operating curves to the nominal lamp watts; with the lamp watt difference taken within the ANSI trapezoid at the nominal lamp operating voltage point parallel to the minimum lamp volt line:



$$\text{Ballast Regulation} = \frac{W_{LampH} - W_{LampL}}{W_{LampN}} \times 100$$

where:

$W_{LampH}$  = lamp watts at +10% line voltage when Lamp voltage = LV<sub>H</sub>

$W_{LampL}$  = lamp watts at - 10% line voltage when lamp voltage = LV<sub>L</sub>

$W_{LampN}$  = lamp watts at nominal lamp operating voltage = LV<sub>N</sub>

Wattage	Nominal Lamp Voltage, LV <sub>N</sub>	LV <sub>L</sub>	LV <sub>H</sub>
750	120v	115v	125v
400	100v	95v	105v
310	100v	95v	105v
250	100v	95v	105v
150	55v	50v	60v
70	52v	47v	57v

Ballast losses, based on cold bench tests, shall not exceed the following values:

Nominal Ballast Wattage	Maximum Ballast Losses
750	15%
400	20%
310	21%
250	24%
150	26%
70	34%

Ballast losses shall be calculated based on input watts and lamp watts at nominal system voltage as indicated in the following equation:

$$\text{Ballast Losses} = \frac{W_{Line} - W_{Lamp}}{W_{Lamp}} \times 100$$

where:

$W_{line}$  = line watts at nominal system voltage

$W_{lamp}$  = lamp watts at nominal system voltage

Ballast output to lamp. At nominal system voltage and nominal lamp voltage, the ballast shall deliver lamp wattage with the variation specified in the following table.

Nominal Ballast Wattage	Output to lamp variation
750	± 7.5%
400	± 7.5%
310	± 7.5%
250	± 7.5%
150	± 7.5%
70	± 7.5%

Example: For a 400w luminaire, the ballast shall deliver 400 watts ±7.5% at a lamp voltage of 100v for the nominal system voltage of 240v which is the range of 370w to 430w.

Ballast output over lamp life. Over the life of the lamp the ballast shall produce average output wattage of the nominal lamp rating as specified in the following table. Lamp wattage readings shall be taken at 5-volt increments throughout the ballast trapezoid. Reading shall begin at the lamp voltage ( $L_v$ ) specified in the table and continue at 5 volt increments until the right side of the trapezoid is reached. The lamp wattage values shall then be averaged and shall be within the specified value of the nominal ballast rating. Submittal documents shall include a tabulation of the lamp wattage vs. lamp voltage readings.

Nominal Ballast Wattage	LV Readings begin at	Maximum Wattage Variation
750	110v	± 7.5%
400	90v	± 7.5%
310	90v	± 7.5%
250	90v	± 7.5%
150	50v	± 7.5%
70	45v	± 7.5%

Example: *For a 400w luminaire, the averaged lamp wattage reading shall not exceed the range of ±7.5% which is 370w to 430w*

Add the following to Article 1067(h) of the Standard Specifications:

“Independent Testing. Independent testing of luminaires shall be required whenever the pay item quantity of luminaires of a given pay item, as indicated on the plans, is 50 or more. For each luminaire type to be so tested, one luminaire plus one luminaire for each 50 luminaires shall be tested. Example: *A plan pay item quantity of 75 luminaires for a specific pay item would dictate that 2 be tested; 135 luminaires would dictate that three be tested.*” If the luminaire performance table is missing from the contract documents, the luminaire(s) shall be tested and the test results shall be evaluated against the manufacturer’s data as provided in the approved material submittal. The test luminaire(s) results shall be equal to or better than the published data. If the test results indicated performance not meeting the published data, the test luminaire will be designated as failed and corrective action as described herein shall be performed.

The Contractor shall be responsible for all costs associated with the specified testing, including but not limited to shipping, travel and lodging costs as well as the costs of the tests themselves, all as part of the bid unit price for this item. Travel, lodging and other associated costs for travel by the Engineer shall be direct-billed to or shall be pre-paid by the Contractor, requiring no direct reimbursement to the Engineer or the independent witness, as applicable”

The Contractor shall select one of the following options for the required testing with the Engineer's approval:

- a. **Engineer Factory Selection for Independent Lab:** The Contractor may select this option if the luminaire manufacturing facility is within the state of Illinois. The Contractor shall propose an independent test laboratory for approval by the Engineer. The selected luminaires shall be marked by the Engineer and shipped to the independent laboratory for tests.
- b. **Engineer Witness of Independent Lab Test:** The Contractor may select this option if the independent testing laboratory is within the state of Illinois. The Engineer shall select, from the project luminaires at the manufacturer's facility or at the Contractor's storage facility, luminaires for testing by the independent laboratory.
- c. **Independent Witness of Manufacturer Testing:** The independent witness shall select from the project luminaires at the manufacturers facility or at the Contractor's storage facility, the luminaires for testing. The Contractor shall propose a qualified independent agent, familiar with the luminaire requirements and test procedures, for approval by the Engineer, to witness the required tests as performed by the luminaire manufacturer.

The independent witness shall as a minimum meet the following requirements:

- ▶ Have been involved with roadway lighting design for at least 15 years.
- ▶ Not have been the employee of a luminaire or ballast manufacturer within the last 5 years.
- ▶ Not associated in any way (plan preparation, construction or supply) with the particular project being tested.
- ▶ Be a member of IESNA in good standing.
- ▶ Provide a list of professional references.

This list is not an all inclusive list and the Engineer will make the final determination as to the acceptability of the proposed independent witness.

- d. **Engineer Factory Selection and Witness of Manufacturer Testing:** The Contractor may select this option if the luminaire manufacturing facility is within the state of Illinois. At the Manufacturer's facility, the Engineer shall select the luminaires to be tested and shall be present during the testing process. The Contractor shall schedule travel by the Engineer to and from the Manufacturer's laboratory to witness the performance of the required tests.

Should any of the tested luminaires fail to satisfy the specifications and perform according to approved submittal information, the luminaire shall be unacceptable and be replaced by alternate equipment meeting the specifications with the submittal and testing process repeated in their entirety; or corrections made to achieve required performance. In the case of corrections, the Contractor shall advise the Engineer of corrections made and shall request a repeat of the specified testing and, if the corrections are deemed reasonable by the Engineer, the testing process shall be repeated. The number of luminaires to be tested shall be the same quantity as originally tested; i.e. if three luminaires were tested originally, one, two or three failed, another three must be tested after corrective action is taken.

Revise Article 1067.06(a)(1) of the Standard Specifications to read:

“The lamps shall be of the clear type and shall have a color of 1900° to 2200° Kelvin.”



Add the following table(s) to Article 1067 of the Standard Specifications:

**IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE  
 HORIZONTAL MOUNT**

GIVEN CONDITIONS		
<b>ROADWAY DATA</b>	Pavement Width	24 (ft) (30 ft median)
	Number of Lanes	2
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
<b>LIGHT POLE DATA</b>	Mounting Height	47.5 (ft)
	Mast Arm Length	15 (ft)
	Pole Set-Back From Edge of Pavement	16 (ft)
<b>LUMINAIRE DATA</b>	Lamp Type	HPS
	Lamp Lumens	37000
	I.E.S. Vertical Distribution	Medium
	I.E.S. Control Of Distribution	Cutoff
	I.E.S. Lateral Distribution	Type III
	Total Light Loss Factor	0.70
<b>LAYOUT DATA</b>	Spacing	280 (ft)
	Configuration	Single Sided
	Luminaire Overhang over edge of pavement	-1 (ft)

**NOTE:** Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

PERFORMANCE REQUIREMENTS
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**NOTE:** These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

<b>LUMINANCE</b>	Average Luminance, $L_{AVE}$	0.4 Cd/m <sup>2</sup>
	Uniformity Ratio, $L_{AVE}/L_{MIN}$	4.0:1 (Max)
	Uniformity Ratio, $L_{MAX}/L_{MIN}$	8.0:1 (Max)
	Veiling Luminance Ratio, $L_V/L_{AVE}$	0.40:1 (Max)

Add the following table(s) to Article 1067 of the Standard Specifications:

**IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE  
 HORIZONTAL MOUNT**

<b>GIVEN CONDITIONS</b>		
<b>ROADWAY DATA</b>	Pavement Width	16 (ft)
	Number of Lanes	1
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
<b>LIGHT POLE DATA</b>	Mounting Height	47.5 (ft)
	Mast Arm Length	15 (ft)
	Pole Set-Back From Edge of Pavement	16 (ft)
<b>LUMINAIRE DATA</b>	Lamp Type	HPS
	Lamp Lumens	37000
	I.E.S. Vertical Distribution	Medium
	I.E.S. Control Of Distribution	Cutoff
	I.E.S. Lateral Distribution	Type III
	Total Light Loss Factor	0.70
<b>LAYOUT DATA</b>	Spacing	240 (ft)
	Configuration	Single Sided
	Luminaire Overhang over edge of pavement	-1 (ft)

**NOTE:** Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

<b>PERFORMANCE REQUIREMENTS</b>		
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**NOTE:** These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

<b>LUMINANCE</b>	Average Luminance, $L_{AVE}$	0.6 Cd/m <sup>2</sup>
	Uniformity Ratio, $L_{AVE}/L_{MIN}$	3.5:1 (Max)
	Uniformity Ratio, $L_{MAX}/L_{MIN}$	6.0:1 (Max)
	Veiling Luminance Ratio, $L_V/L_{AVE}$	0.3 (Max)

## **TRAFFIC CONTROL PLAN**

Effective: September 30, 1985

Revised: January 1, 2007

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

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

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

## STANDARDS

635001, 635011, 643001, 701001,701006, 701011, 701101, 701201, 701301, 701306,  
701311, 701326, 701400, 701401, 701411,701426, 701446, 701428, 701901, 704001,  
780001

## DETAILS

Maintenance of Traffic Plans, Stages of Construction  
TC-8: Entrance and Exit Ramp Closure Details  
TC-9: Single Lane Weave and Multi-Lane Weave  
TC-10: Traffic Control and Protection for Side Roads, Intersections, and Driveways  
TC-11: Raised Reflective Pavement Markers (Snow Plow Resistant)  
TC-12: Multi-Lane Freeway Pavement Marking Detail  
TC-13: District One Typical Pavement Markings  
TC-16: Pavement Marking Letters And Symbols For Traffic Staging  
TC-17: Partial Ramp & Shoulder Closure Details  
TC-18:Signing for Flagging Operations at Work Zone Openings  
TC-21: Detour Signing for Closing State Highways  
TC-22: Arterial Road Information Signs  
TC-26: Driveway Entrance Signing

## SPECIAL PROVISIONS

- Maintenance of Roadways
- Traffic Control Plan
- Traffic Control And Protection (Expressways)
- Traffic Control Surveillance, Expressways
- Keeping The Expressway Open To Traffic
- Lane Closure Restrictions
- Failure to open traffic lanes to traffic
- Traffic Control and Protection (Special)
- Traffic Control for Work Zone Areas
- Public Convenience and Safety
- Temporary Information Signing
- Pavement Marking Removal
- Traffic Control Deficiency Deduction (BDE)
- Automated Flagger Assistance Device (BDE)
- Traffic Control Setup and Removal Freeway/Expressway (BDE)
- Glare Screen (BDE)

## **TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT**

**Description.** This item shall consist of furnishing and installing temporary luminaire as shown on the plans.

**Materials.** The materials shall be in accordance with applicable portions of article 821.02 of standard specifications and IDOT District 1 special provision except the independent testing will not be required.

## **CONSTRUCTION REQUIREMENTS**

**Installation.** The installation shall be in accordance with the articles 821.03 and 821.04. Luminaire shall be installed on existing light pole unit the same day the existing luminaire will be removed and make the lighting system operational before dusk.

Add the following table(s) to Article 1067 of the Standard Specifications:

**IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE  
 HORIZONTAL MOUNT for 400W HPS temporary luminaire**

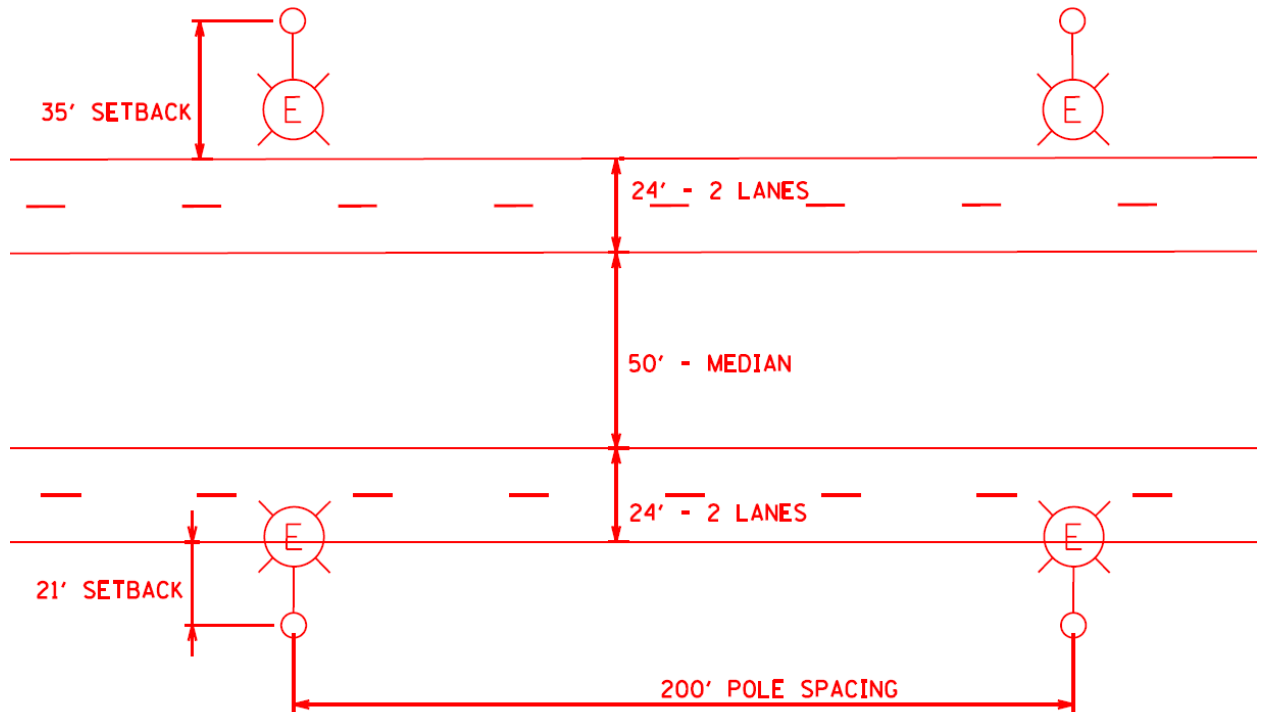
GIVEN CONDITIONS		
<b>ROADWAY DATA</b>	Pavement Width	24 (ft) (50 ft median)
	Number of Lanes	2
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
<b>LIGHT POLE DATA</b>	Mounting Height	47.5 (ft)
	Mast Arm Length	15 (ft)
	Pole Set-Back From Edge of Pavement	See Sketch
<b>LUMINAIRE DATA</b>	Lamp Type	HPS
	Lamp Lumens	50000
	I.E.S. Vertical Distribution	Medium
	I.E.S. Control Of Distribution	Cutoff
	I.E.S. Lateral Distribution	Type III
	Total Light Loss Factor	0.70
<b>LAYOUT DATA</b>	Spacing	200 (ft)
	Configuration	Opposite sided
	Luminaire Overhang over edge of pavement	See Sketch

**NOTE:** Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

PERFORMANCE REQUIREMENTS		
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**NOTE:** These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

<b>LUMINANCE</b>	Average Luminance, $L_{AVE}$	0.6 Cd/m <sup>2</sup>
	Uniformity Ratio, $L_{AVE}/L_{MIN}$	3.0:1 (Max)
	Uniformity Ratio, $L_{MAX}/L_{MIN}$	5.0:1 (Max)
	Veiling Luminance Ratio, $L_V/L_{AVE}$	0.30:1 (Max)



**LIGHT POLE CONFIGURATION FOR  
TEMPORARY LIGHTING LUMINAIRE 400W HPS**

**Basis Of Payment.** This work will be paid for at the contract unit price each for **TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT** which shall be payment in full for the work specified herein.

**404 PERMIT**



REPLY TO  
ATTENTION OF:

**DEPARTMENT OF THE ARMY**  
CHICAGO DISTRICT, CORPS OF ENGINEERS  
231 SOUTH LA SALLE STREET  
CHICAGO, ILLINOIS 60604-1437

January 8, 2014

Technical Services Division  
Regulatory Branch  
LRC-2011-00695

SUBJECT: Sign Permit for the Proposed Full Access Interchange along Interstate 57 at Stuenkel Road near University Park, Will County, Illinois

John Fortmann  
Illinois Department of Transportation  
201 West Center Court  
Schaumburg, Illinois 60196-1096

Dear Mr. Fortmann:

The U.S. Army Corps of Engineers has authorized the above-referenced project under Section 404 of the Clean Water Act, as described in your notification and as shown on the plans titled "Proposed Highway Plans – F.A.I Route 57 (Interstate-57) – at Stuenkel Road/University Parkway – New Interchange Construction – Will County – C-91-001-11 – Section 99-1HB-R1" dated October 18, 2013, prepared by T.Y. Lin International. Enclosed is your copy of the executed permit which becomes effective on the date of this letter.

This determination covers only your project as described above. If the design, location, or purpose of the project is changed, you should contact this office to determine the need for further authorization. If it is anticipated that the activity as described cannot be completed within the time limits of the authorization, you must submit a request for a time extension to this office at least thirty (30) calendar days prior to the expiration date of your permit. Failure to do so will result in the District's re-evaluation of your project, which may include the issuance of a public notice.

To offset project impacts, approximately 19.3 acres of wetland will be restored (2.46 acres of mitigation required by Corps, remaining required by State of Illinois) as described in the approved mitigation plan entitled "Wetland Mitigation Plan – Thorn Creek Headwaters Preserve – IDOT Mitigation Area", dated October 16, 2012 (revised March 21, 2013), prepared by the Forest Preserve District of Will County.

Once you have completed your project, please sign and return the enclosed compliance certification. If you have any questions, please contact Mr. Soren Hall of my staff by telephone at 312-846-5532, or email at Soren.G.Hall@usace.army.mil.

Sincerely,



Leesa A. Beal  
Chief, Regulatory Branch

Enclosure

Copy furnished (with authorization):

United States Fish & Wildlife Service (Shawn Cirton)  
Illinois Environmental Protection Agency (Thad Faught)  
Hey and Associates (Steve Rauch)





**PERMIT COMPLIANCE  
CERTIFICATION**

Permit Number: LRC-2011-00695  
Permittee: John Fortmann  
Illinois Department of Transportation  
Date of Issuance: January 8, 2014

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

\_\_\_\_\_  
PERMITTEE

\_\_\_\_\_  
DATE

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

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

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

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



**DEPARTMENT OF THE ARMY**

**PERMIT**

**PERMITTEE:** John Fortmann  
Illinois Department of Transportation

**APPLICATION:** LRC-2011-00695

**ISSUING OFFICE:** U.S. Army Corps of Engineers, Chicago District

**DATE:** JAN 8 2014

You are hereby authorized to perform work in accordance with the terms and conditions specified below.

Note: The term "you" and its derivatives, as used in this authorization, means the permittee or any future transferee. The term "this office" refers to the U.S. Army Corps of Engineers, Chicago District.

**PROJECT DESCRIPTION:** The construction of a full access interchange at Interstate 57 and Stuenkel Road near University Park in Will County, Illinois as described in your notification and as shown on the plans titled, "Proposed Highway Plans – F.A.I Route 57 (Interstate-57) – at Stuenkel Road/University Parkway – New Interchange Construction – Will County – C-91-001-11 – Section 99-1HB-R1" dated October 18, 2013, prepared by T.Y. Lin International.

To offset project impacts, approximately 19.3 acres of wetland will be restored (2.46 acres of mitigation required by Corps, remaining required by State of Illinois) as described in the approved mitigation plan entitled "Wetland Mitigation Plan – Thorn Creek Headwaters Preserve – IDOT Mitigation Area", dated October 16, 2012 (revised March 21, 2013), prepared by the Forest Preserve District of Will County.

**PROJECT LOCATION:** Stuenkel Road at Interstate 57 from east of Ridgeland Avenue to east of Central Avenue near University Park, Will County, Illinois

- 2 -

**GENERAL CONDITIONS:**

1. The time limit for completing the authorized work ends on **December 30, 2018**. If you find that you need more time to complete the authorized activity(s), submit your request for a time extension to this office for consideration at least 60 days before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. You shall comply with the water quality certification issued under Section 401 of the Clean Water Act by the Illinois Environmental Protection Agency for the project. Conditions of the certification are conditions of this authorization. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being accomplished in accordance with the terms and conditions of your permit.

The following special conditions are a requirement of your authorization:

1. This authorization is based on the materials submitted as part of application number LRC-2011-00695. Failure to comply with the terms and conditions of this authorization may result in suspension and revocation of your authorization.
2. You shall undertake and complete the project as described in the plans titled, "Proposed Highway Plans – F.A.I Route 57 (Interstate-57) – at Stuenkel Road/University Parkway -- New Interchange Construction – Will County – C-91-001-11 – Section 99-1HB-R1" dated October 18, 2013, prepared by T.Y. Lin International, including all relevant documentation to the project plans as proposed.

- 3 -

3. You shall fully implement the Project Mitigation Document titled "Wetland Mitigation Plan – Thorn Creek Headwaters Preserve – IDOT Mitigation Area, dated October 16, 2012 (revised March 21, 2013), prepared by the Forest Preserve District of Will County, within the first year of project construction. All enhanced and restored wetlands shall meet performance criteria in accordance with the Chicago District Permittee Responsible Mitigation Requirements and the approved mitigation document. Your responsibility to complete the required compensatory mitigation will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.
4. You shall fully implement the Project Mitigation Document titled "Stream Re-alignment Project Mitigation Document – USACE #LRC-2011-695 – Interstate 57 at Stuenkel Road Interchange – Village of University Park, Will County, Illinois" dated April 12, 2013, prepared by Hey and Associates, Inc. within the first year of project construction. The realignment of the tributary to Hickory Creek shall meet performance criteria in accordance with the approved mitigation document. Your responsibility to complete the required compensatory mitigation will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.
5. This authorization is contingent upon implementing and maintaining soil erosion and sediment controls in a serviceable condition throughout the duration of the project. You shall comply with the project's soil erosion and sediment control (SESC) plans and the installation and maintenance requirements of the SESC practices on-site. You shall notify this office any changes or modifications to the approved plan set. Please be aware that field conditions during project construction may require the implementation of additional SESC measures for further protection of aquatic resources. If you fail to implement corrective measures, this office may require more frequent site inspections to ensure the installed SESC measures are acceptable. Please be aware that work authorized herein may not commence until you receive written notification from this office that your plans meet technical standards.

As part of the soil erosion and sediment control (SESC) process, you are required to retain a qualified Independent SESC Inspector (ISI) to review the project's SESC plans and provide a detailed narrative that explains the measures to be implemented at the project site. The ISI is also required to perform site inspections of the implemented SESC measures to ensure proper installation and regular maintenance of the approved methods. The following requirements apply:

- a. Prior to commencement of any in-stream work, you shall submit construction plans and a detailed narrative to this office that disclose the contractor's preferred method of cofferdam and dewatering method. Work in the waterway shall NOT commence until this office notifies you, in writing, that the plans have been approved.
- b. You shall retain a qualified SESC inspector to perform periodic inspections of the

- 4 -

- implemented SESC measures to ensure proper installation and regular maintenance of the approved methods. The contact information for the Independent SESC Inspector (ISI) shall be submitted to this office via e-mail and/or hard copy prior to the Corps counter-signature on the permit and prior to commencement of the permitted work;
- c. Provide prior notification to a representative of this office and to the designated Independent SESC Inspector of the pre-construction meeting at least 10 calendar days in advance. The meeting shall be held to review the Corps approved SESC plans and if applicable, to discuss any necessary changes as required. The SESC inspector shall submit digital photographs of the SESC measures to the Corps on a weekly basis during the active and non-active phases of construction that represent the existing conditions of the site. Photographs shall be submitted at the completion of the project once the SESC measures have been removed and the area has been restored to pre-construction conditions; and
  - d. You shall contact this office immediately in the event of any changes or modifications to the approved plan set and non-compliance and/or failure/inadequacy of an existing SESC method. Upon direction of the Corps, corrective measure shall be instituted at the site to correct the problem along with additional SESC measures which may be needed to ensure further protection of the resource and/or to restore the impacted jurisdictional area(s).
6. You shall fully implement the practices identified in the Best Management Practices (BMP) Maintenance and Monitoring (M&M) Plan titled, "Best Management Practices Maintenance and Monitoring Plan – USACE #LRC-2011-695 – Interstate 57 at Stuenkel Road Interchange – Village of University Park, Will County, Illinois", dated June 19, 2013, prepared by Hey and Associates, Inc. within the first year of project construction. All BMP's shall meet performance criteria in accordance with the approved document. Your responsibility to complete the plan will not be considered fulfilled until you have demonstrated BMP success and have received written verification of that success from the U.S. Army Corps of Engineers.
  7. You are responsible for all work authorized herein and for ensuring that all contractors are aware of the terms and conditions of this authorization.
  8. A copy of this authorization must be present at the project site during all phases of construction.
  9. You shall notify this office of any proposed modifications to the project, including revisions to any of the plans or documents cited in this authorization. You must receive approval from this office before work affected by the proposed modification is performed.
  10. You shall notify this office prior to the transfer of this authorization and liabilities associated with compliance with its terms and conditions. The transferee must sign the authorization in the space provided and forward a copy of the authorization to this office.

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11. Work in the waterway should be timed to take place during low or no-flow conditions. Low flow conditions are flow at or below the normal water elevation.
12. The plan will be designed to allow for the conveyance of the 2-year peak flow past the work area without overtopping the cofferdam. The Corps has the discretion to reduce this requirement if documented by the applicant to be infeasible or unnecessary.
13. Water shall be isolated from the in-stream work area using a cofferdam constructed of non-erodible materials (steel sheets, aqua barriers, rip rap and geotextile liner, etc.). Earthen cofferdams are not permissible.
14. The cofferdam must be constructed from the upland area and no equipment may enter flowing water at any time. If the installation of the cofferdam cannot be completed from shore and access is needed to reach the area to be coffered, other measures, such as the construction of a causeway, will be necessary to ensure that equipment does not enter the water. Once the cofferdam is in place and the isolated area is dewatered, equipment may enter the coffered area to perform the required work.
15. If bypass pumping is necessary, the intake hose shall be placed on a stable surface or floated to prevent sediment from entering the hose. The bypass discharge shall be placed on a non-erodible, energy dissipating surface prior to rejoining the stream flow and shall not cause erosion. Filtering of bypass water is not necessary unless the bypass water has become sediment-laden as a result of the current construction activities.
16. During dewatering of the coffered work area, all sediment-laden water must be filtered to remove sediment. Possible options for sediment removal include baffle systems, anionic polymers systems, dewatering bags, or other appropriate methods. Water shall have sediment removed prior to being re-introduced to the downstream waterway. A stabilized conveyance from the dewatering device to the waterway must be identified in the plan. Discharge water is considered clean if it does not result in a visually identifiable degradation of water clarity.
17. The portion of the side slope that is above the observed water elevation shall be stabilized as specified in the plans prior to accepting flows. The substrate and toe of slope that has been disturbed due to construction activities shall be restored to proposed or pre-construction conditions and fully stabilized prior to accepting flows.

**Further Information:**

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

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(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this Authorization.

a. This permit does not obviate the need to obtain other federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. The Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on the behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modifications, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in the reliance on the information you provided.

5. Reevaluation of Permit Decision. The office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the


- 7 -

original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

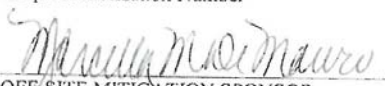
6. Extensions. General Condition 1 established a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this authorization.

  
\_\_\_\_\_  
PERMITTEE  
John Fortmann  
Illinois Department of Transportation

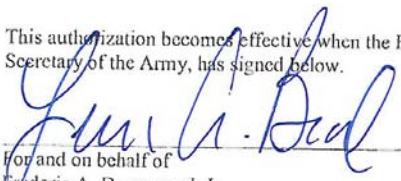
1-6-14  
\_\_\_\_\_  
DATE

LRC-2011-00695

\_\_\_\_\_  
Corps Authorization Number  
  
\_\_\_\_\_  
OFF-SITE MITIGATION SPONSOR  
Forest Preserve District of Will County

1-07-14  
\_\_\_\_\_  
DATE

This authorization becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

  
\_\_\_\_\_  
for and on behalf of  
Frederic A. Drummond, Jr.  
Colonel, U.S. Army  
District Commander

1/8/14  
\_\_\_\_\_  
DATE



- 8 -

If the structures or work authorized by this authorization are still in existence at the time the property is transferred, the terms and conditions of this authorization will continue to be binding on the new owner(s) of the property. To validate the transfer of this authorization and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below. The document shall be attached to a copy of the permit and submitted to the Corps.

\_\_\_\_\_  
CORPS PROJECT NUMBER

\_\_\_\_\_  
TRANSFEREE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
TELEPHONE



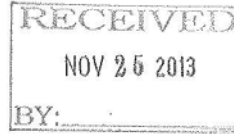
## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829  
PAT QUINN, GOVERNOR                      LISA BONNETT, DIRECTOR

217/782-3362

NOV 22 2013

U.S. Army Corps of Engineers, Chicago District  
Regulatory Branch  
231 South LaSalle Street, Suite 1500  
Chicago, IL 60604



Re: Illinois Department of Transportation (Will County)  
Improvements at I-57 and Stuenkel Road – Unnamed tributaries to Hickory Creek and unnamed wetlands  
Log # C-0308-12 [CoE appl. # 2011-00695]

Gentlemen:

This Agency received a request on October 11, 2012 from the Illinois Department of Transportation requesting necessary comments concerning the improvements at the I-57 and Stuenkel Road impacting unnamed tributaries to Hickory Creek and unnamed wetlands. We offer the following comments.

Based on the information included in this submittal, it is our engineering judgment that the proposed project may be completed without causing water pollution as defined in the Illinois Environmental Protection Act, provided the project is carefully planned and supervised.

These comments are directed at the effect on water quality of the construction procedures involved in the above described project and are not an approval of any discharge resulting from the completed facility, nor an approval of the design of the facility. These comments do not supplant any permit responsibilities of the applicant toward the Agency.

This Agency hereby issues certification under Section 401 of the Clean Water Act (PL 95-217), subject to the applicant's compliance with the following conditions:

1. The applicant shall not cause:
  - a. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulations;
  - b. water pollution defined and prohibited by the Illinois Environmental Protection Act; or
  - c. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.

4302 N. Main St., Rockford, IL 61103 (815)987-7760  
595 S. State, Elgin, IL 60123 (847)608-3131  
2125 S. First St., Champaign, IL 61820 (217)278-5800  
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000  
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462  
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200  
100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312)814-6026

PLEASE PRINT ON RECYCLED PAPER

Page No. 2  
Log No. C-0308-12

4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of staked straw bales, sedimentation basins and temporary mulching. All construction within the waterway shall be constructed during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
5. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2012).
6. Asphalt, bituminous material and concrete with protruding material such as reinforcing bar or mesh shall not be 1) used for backfill, 2) placed on shorelines/streambanks, or 3) placed in waters of the State.
7. The channel relocation shall be constructed under dry conditions and stabilized to prevent erosion prior to the diversion of flow.
8. The proposed work shall be constructed with adequate erosion control measures (i.e., silt fences, straw bales, etc.) to prevent transport of sediment and materials to the adjoining wetlands and downstream.
9. The mitigation plan received by the Agency dated March 21, 2013 and April 12, 2013 and a June 28, 2013 email shall be implemented. Modifications to the mitigation plan must be submitted to the Agency for approval. The permittee shall submit annual reports by July 1 of each calendar year on the status of the mitigation. The first annual report shall include a hydric soils determination that represents the soils at the completion of initial construction for the wetland mitigation site(s). The permittee shall monitor the mitigation for 5 years (wetland mitigation plan) and 3 years (stream mitigation plan) after the completion of initial construction. A final report shall be submitted within 90 days after completion of a 5-year (wetland mitigation plan) and 3-year (stream mitigation plan) monitoring periods. Each annual report and the final report shall include the following: IEPA Log No., date of completion of initial construction, representative photographs, updated topographic maps, description of work in the past year, the performance standards for the mitigation as stated in the mitigation plan, and the activities remaining to complete the mitigation plan. For wetland mitigation sites containing non-hydric soils at the time of initial construction, the final report shall include a hydric soils determination that represents the soils at the end of the 5-year monitoring period. For mitigation provided by purchase of mitigation banking credits, in lieu of the above monitoring and reporting, the permittee shall submit written proof from the mitigation bank that the credits have been purchased within thirty (30) days of said purchase. The subject reports and proof of purchase of mitigation credits shall be submitted to:

Illinois Environmental Protection Agency  
Bureau of Water  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

Page No. 3  
Log No. C-0308-12

This certification becomes effective when the Department of the Army, Corps of Engineers, includes the above conditions # 1 through # 9 as conditions of the requested permit issued pursuant to Section 404 of PL 95-217.

This certification does not grant immunity from any enforcement action found necessary by this Agency to meet its responsibilities in prevention, abatement, and control of water pollution.

Sincerely,



Alan Keller, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

SAK:TJF:0308-12.docx

cc: IEPA, Records Unit  
IEPA, DWPC, FOS, Des Plaines  
IDNR, OWR, Bartlett  
USEPA, Region 5  
Mr. John Fortmann, Illinois Dept. of Transportation, 201 West Center Court, Schaumburg, IL 60196  
Mr. Seven Rauch, Hey and Associates, Inc., 26575 West Commerce Drive, Suite 601, Volo, IL 60073



## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

#### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

#### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If

the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

## **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

#### **III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color,

religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

#### **IV. Davis-Bacon and Related Act Provisions**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

##### **1. Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:



(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such

action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

##### d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for

debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### **10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such

contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

#### **VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded,"

as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with

commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the

certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY  
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

**NOTICE**

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.