

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

Technical questions about downloading these files may be directed to Tim Garman at (217)524-1642 or 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

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RETURN WITH BID

Proposal Submitted By
Name
Address
City

Letting November 8, 2013

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. 66B83
GRUNDY-KENDALL Counties
Section (110)R, BR & BR-1
Route FAP 326
Project ACNCII-0326(088)
District 3 Construction Funds**

PLEASE MARK THE APPROPRIATE BOX BELOW:

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

Prepared by

F

Checked by

(Printed by authority of the State of Illinois)

Page intentionally left blank

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. 66B83
GRUNDY-KENDALL Counties
Section (110)R, BR & BR-1
Project ACNCII-0326(088)
Route FAP 326
District 3 Construction Funds**

Reconstruction of 2 lane (NB and SB) pavement along IL 47 from north of I-80 in Morris to north of Sherrill Rd., and removal and replacement of the bridges carrying IL 47 over Saratoga Creek and Valley Run Creek (SN032-0089, 0088).

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)

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

66B83

State Job # - C-93-049-12

County Name - GRUNDY- KENDALL-
 Code - 63 - 93 -
 District - 3 - 3 -
 Section Number - (110)R,BR & BR-1

Project Number
 ACNCII-0326/088/

Route
 FAP 326

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0320374	PLUG EX SAN SEWERS	EACH	1.000				
X0324159	WHITEWASH CONC PAVT	SQ YD	179,811.000				
X0325279	CLASS SI CONC (MISC)	CU YD	6.300				
X0325667	WD CTRL MWNG STRP SP	SQ YD	895.000				
X0326020	UTILTY PROTECTION PAD	SQ YD	1,743.000				
X0327420	SAN SEWER DI 8	FOOT	25.000				
X0327651	WAT MN IN CASING 12	FOOT	1,115.000				
X4060110	BIT MATLS PR CT	POUND	120,764.000				
X4401198	HMA SURF REM VAR DP	SQ YD	1,469.000				
X4402800	ISLAND PAVEMENT REM	SQ YD	23.000				
X5860110	GRANULAR BACKFILL STR	CU YD	1,243.000				
X6013600	PIPE UNDERDRAIN 4 MOD	FOOT	89,070.000				
X6022820	MAN SAN 5 DIA T1F CL	EACH	1.000				
X6022850	MAN SAN 8 DIA T1F CL	EA	2.000				
X6022855	MAN SAN 9 DIA T1F CL	EACH	1.000				

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X6026054	SAN MAN REMOVED	EACH	6.000				
X6026056	SAN MH ADJ NEW T1F CL	EACH	5.000				
X6026057	SAN MH REC NEW T1F CL	EACH	1.000				
X6026632	VALVE BOX REMOVED	EACH	15.000				
X6061100	CONC MED TSB SPL	SQ FT	15,826.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				
X7830070	GRV RCSD PVT MRKG 5	FOOT	96,169.000				
X7830074	GRV RCSD PVT MRKG 7	FOOT	12,038.000				
X7830076	GRV RCSD PVT MRKG 9	FOOT	12,686.000				
X8410102	TEMP LIGHTING SYSTEM	L SUM	1.000				
X8410118	MAINT TEMP LIGHT SYS	L SUM	1.000				
X8570226	FAC T4 CAB SPL	EACH	1.000				
X8570231	FAC T5 CAB SPL	EACH	1.000				
X8730250	ELCBL C 20 3C TW SH	FOOT	1,370.000				
X8860100	LOOP DET TESTING	EACH	2.000				

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Z0007601	BLDG REMOV NO 1	L SUM	1.000				
Z0007602	BLDG REMOV NO 2	L SUM	1.000				
Z0013302	SEGMENT CONC BLK WALL	SQ FT	125.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0018400	DRAINAGE STR ADJ	EACH	1.000				
Z0018700	DRAINAGE STR REMOVED	EACH	19.000				
Z0023602	GRAN CULVERT BACKFILL	CU YD	1,235.000				
Z0029652	HT CBL MEDIAN BARRIER	FOOT	1,700.000				
Z0029653	HT CBL MED BAR DEMO	EACH	2.000				
Z0029654	HT CBL MED BAR TERM	EACH	6.000				
Z0030850	TEMP INFO SIGNING	SQ FT	149.500				
Z0032900	LAND SECTION MARKERS	EACH	11.000				
Z0033056	OPTIM TRAF SIGNAL SYS	EACH	1.000				
Z0046304	P UNDR FOR STRUCT 4	FOOT	690.000				
Z0056608	STORM SEW WM REQ 12	FOOT	510.000				

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Z0056610	STORM SEW WM REQ 15	FOOT	466.000				
Z0056612	STORM SEW WM REQ 18	FOOT	82.000				
Z0056616	STORM SEW WM REQ 24	FOOT	293.000				
Z0056620	STORM SEW WM REQ 30	FOOT	142.000				
Z0056800	SAN SEW 6	FOOT	20.000				
Z0062456	TEMP PAVEMENT	SQ YD	13,328.000				
Z0065767	SLOT DR 15"W/1.75" SL	FOOT	419.000				
Z0073002	TEMP SOIL RETEN SYSTM	SQ FT	1,253.000				
Z0073510	TEMP TR SIGNAL TIMING	EACH	1.000				
Z0076600	TRAINEES	HOUR	2,500.000		0.800		2,000.000
Z0076604	TRAINEES TPG	HOUR	2,500.000		10.000		25,000.000
20100110	TREE REMOV 6-15	UNIT	2,917.000				
20100210	TREE REMOV OVER 15	UNIT	1,710.000				
20101000	TEMPORARY FENCE	FOOT	3,002.000				
20200100	EARTH EXCAVATION	CU YD	157,150.000				
20200200	ROCK EXCAVATION	CU YD	570.000				

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20201200	REM & DISP UNS MATL	CU YD	86,043.000				
20300100	CHANNEL EXCAVATION	CU YD	2,860.000				
20400800	FURNISHED EXCAVATION	CU YD	279,238.000				
20700220	POROUS GRAN EMBANK	CU YD	289.000				
20800150	TRENCH BACKFILL	CU YD	3,352.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	40,469.000				
21101505	TOPSOIL EXC & PLAC	CU YD	30,318.000				
21301052	EXPLOR TRENCH 52	FOOT	43,821.000				
25000210	SEEDING CL 2A	ACRE	44.750				
25000310	SEEDING CL 4	ACRE	17.250				
25000400	NITROGEN FERT NUTR	POUND	5,671.000				
25000500	PHOSPHORUS FERT NUTR	POUND	5,671.000				
25000600	POTASSIUM FERT NUTR	POUND	5,671.000				
25100115	MULCH METHOD 2	ACRE	103.250				
25100630	EROSION CONTR BLANKET	SQ YD	136,556.000				

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District - 3 - 3 -

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
25200110	SODDING SALT TOLERANT	SQ YD	9,405.000				
25200200	SUPPLE WATERING	UNIT	140.000				
28000250	TEMP EROS CONTR SEED	POUND	6,996.000				
28000305	TEMP DITCH CHECKS	FOOT	12,769.000				
28000400	PERIMETER EROS BAR	FOOT	13,415.000				
28000500	INLET & PIPE PROTECT	EACH	132.000				
28100105	STONE RIPRAP CL A3	SQ YD	26.000				
28100107	STONE RIPRAP CL A4	SQ YD	3,324.000				
28200200	FILTER FABRIC	SQ YD	3,350.000				
30300112	AGG SUBGRADE IMPR 12	SQ YD	221,914.000				
30300118	AGG SUBGRADE IMPR 18	SQ YD	34,690.000				
31100500	SUB GRAN MAT A 6	SQ YD	9,340.000				
31100700	SUB GRAN MAT A 8	SQ YD	2,499.000				
31100910	SUB GRAN MAT A 12	SQ YD	5,780.000				
31101200	SUB GRAN MAT B 4	SQ YD	114.000				

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31101900	SUB GRAN MAT C	TON	28,720.000				
31200100	STAB SUBBASE 4	SQ YD	179,811.000				
35101600	AGG BASE CSE B 4	SQ YD	3,133.000				
35101800	AGG BASE CSE B 6	SQ YD	2,675.000				
35600722	HMA BC WID 11 1/2	SQ YD	27.000				
40200800	AGG SURF CSE B	TON	1,692.000				
40201000	AGGREGATE-TEMP ACCESS	TON	4,263.000				
40600645	LEV BIND MM N90	TON	87.000				
40600990	TEMPORARY RAMP	SQ YD	51.000				
40603085	HMA BC IL-19.0 N70	TON	5,970.000				
40603090	HMA BC IL-19.0 N90	TON	4,495.000				
40603340	HMA SC "D" N70	TON	1,889.000				
40603345	HMA SC "D" N90	TON	1,144.000				
40800050	INCIDENTAL HMA SURF	TON	2,102.000				
42000511	PCC PVT 10 1/2 JOINTD	SQ YD	158,379.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
42001200	PAVEMENT FABRIC	SQ YD	40.000				
42001300	PROTECTIVE COAT	SQ YD	244,751.000				
42001420	BR APPR PVT CON (PCC)	SQ YD	1,067.000				
42300200	PCC DRIVEWAY PAVT 6	SQ YD	86.000				
42300400	PCC DRIVEWAY PAVT 8	SQ YD	5,487.000				
42400100	PC CONC SIDEWALK 4	SQ FT	7,307.000				
42400800	DETECTABLE WARNINGS	SQ FT	120.000				
44000100	PAVEMENT REM	SQ YD	83,606.000				
44000159	HMA SURF REM 2 1/2	SQ YD	621.000				
44000200	DRIVE PAVEMENT REM	SQ YD	3,862.000				
44000500	COMB CURB GUTTER REM	FOOT	1,005.000				
44000600	SIDEWALK REM	SQ FT	2,427.000				
44004250	PAVED SHLD REMOVAL	SQ YD	21,821.000				
48101200	AGGREGATE SHLDS B	TON	5,233.000				
48203021	HMA SHOULDERS 6	SQ YD	2,317.000				

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48300300	PCC SHOULDERS 8	SQ YD	58,813.000				
50100300	REM EXIST STRUCT N1	EACH	1.000				
50100400	REM EXIST STRUCT N2	EACH	1.000				
50100500	REM EXIST STRUCT N3	EACH	1.000				
50100600	REM EXIST STRUCT N4	EACH	1.000				
50100700	REM EXIST STRUCT N5	EACH	1.000				
50100800	REM EXIST STRUCT N6	EACH	1.000				
50100900	REM EXIST STRUCT N7	EACH	1.000				
50101000	REM EXIST STRUCT N8	EACH	1.000				
50101100	REM EXIST STRUCT N9	EACH	1.000				
50105220	PIPE CULVERT REMOV	FOOT	2,499.000				
50200100	STRUCTURE EXCAVATION	CU YD	1,890.000				
50300100	FLOOR DRAINS	EACH	10.000				
50300225	CONC STRUCT	CU YD	490.400				
50300255	CONC SUP-STR	CU YD	1,856.200				

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50300260	BR DECK GROOVING	SQ YD	2,653.000				
50300300	PROTECTIVE COAT	SQ YD	4,027.000				
50400735	F&E PPC BULB T-BM 63	FOOT	1,399.000				
50401105	F & E P P CON I-BM 54	FOOT	1,473.500				
50800105	REINFORCEMENT BARS	POUND	21,760.000				
50800205	REINF BARS, EPOXY CTD	POUND	410,660.000				
50800515	BAR SPLICERS	EACH	1,145.000				
50900805	PEDESTRIAN RAIL	FOOT	24.000				
51201610	FUR STL PILE HP12X63	FOOT	1,717.000				
51201800	FUR STL PILE HP14X73	FOOT	1,475.000				
51202305	DRIVING PILES	FOOT	3,192.000				
51203610	TEST PILE ST HP12X63	EACH	1.000				
51203800	TEST PILE ST HP14X73	EACH	2.000				
51204650	PILE SHOES	EACH	77.000				
51500100	NAME PLATES	EACH	10.000				

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54003000	CONC BOX CUL	CU YD	118.600				
54010503	PCBC 5X3	FOOT	910.000				
54010704	PCBC 7X4	FOOT	386.000				
54010804	PCBC 8X4	FOOT	176.500				
542A0220	P CUL CL A 1 15	FOOT	49.000				
542A0229	P CUL CL A 1 24	FOOT	60.000				
542A0241	P CUL CL A 1 36	FOOT	392.000				
542A0247	P CUL CL A 1 42	FOOT	567.000				
542A5482	P CUL CL A 1 EQRS 27	FOOT	249.000				
542A5485	P CUL CL A 1 EQRS 30	FOOT	100.000				
542A5503	P CUL CL A 1 EQRS 48	FOOT	216.000				
542D0220	P CUL CL D 1 15	FOOT	739.000				
542D0223	P CUL CL D 1 18	FOOT	531.000				
542D0226	P CUL CL D 1 21	FOOT	45.000				
542D0229	P CUL CL D 1 24	FOOT	164.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
542D0235	P CUL CL D 1 30	FOOT	62.000				
542D0241	P CUL CL D 1 36	FOOT	100.000				
542D5473	P CUL CL D 1 EQRS 18	FOOT	27.000				
5421A015	P CUL CL A 1 15 TEMP	FOOT	304.000				
5421A018	P CUL CL A 1 18 TEMP	FOOT	192.000				
5421A030	P CUL CL A 1 30 TEMP	FOOT	40.000				
54213657	PRC FLAR END SEC 12	EACH	88.000				
54213660	PRC FLAR END SEC 15	EACH	6.000				
54213663	PRC FLAR END SEC 18	EACH	5.000				
54213669	PRC FLAR END SEC 24	EACH	8.000				
54213675	PRC FLAR END SEC 30	EACH	3.000				
54213693	PRC FLAR END SEC 48	EACH	2.000				
54214512	PRC FL END S EQ RS 27	EACH	8.000				
54214515	PRC FL END S EQ RS 30	EACH	4.000				
54215550	MET END SEC 15	EACH	31.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
54215553	MET END SEC 18	EACH	16.000				
54215556	MET END SEC 21	EACH	2.000				
54215559	MET END SEC 24	EACH	4.000				
54215565	MET END SEC 30	EACH	2.000				
54215571	MET END SEC 36	EACH	2.000				
54215763	MET END SEC EQV RS 18	EACH	2.000				
54260311	TRAVERS PIPE GRATE	FOOT	786.000				
54261436	CONC ES 542001 36 1:4	EACH	2.000				
54262436	CONC ES 542006 36 1:4	EACH	4.000				
54262442	CONC ES 542006 42 1:4	EACH	12.000				
54264448	CONC ES 542016 48 1:4	EACH	6.000				
550A0050	STORM SEW CL A 1 12	FOOT	1,048.000				
550A0070	STORM SEW CL A 1 15	FOOT	454.000				
550A0090	STORM SEW CL A 1 18	FOOT	331.000				
550A0120	STORM SEW CL A 1 24	FOOT	547.000				

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550A0140	STORM SEW CL A 1 30	FOOT	393.000				
550A0160	STORM SEW CL A 1 36	FOOT	386.000				
550A0180	STORM SEW CL A 1 42	FOOT	675.000				
550A0190	STORM SEW CL A 1 48	FOOT	434.000				
550A0340	STORM SEW CL A 2 12	FOOT	8,020.000				
550A0360	STORM SEW CL A 2 15	FOOT	953.000				
550A0380	STORM SEW CL A 2 18	FOOT	1,423.000				
550A0410	STORM SEW CL A 2 24	FOOT	1,978.000				
550A0430	STORM SEW CL A 2 30	FOOT	1,291.000				
550A0450	STORM SEW CL A 2 36	FOOT	639.000				
550A0470	STORM SEW CL A 2 42	FOOT	205.000				
550A0480	STORM SEW CL A 2 48	FOOT	1,216.000				
55100500	STORM SEWER REM 12	FOOT	175.000				
55100900	STORM SEWER REM 18	FOOT	410.000				
55101200	STORM SEWER REM 24	FOOT	25.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
56100600	WATER MAIN 6	FOOT	46.000				
56100900	WATER MAIN 12	FOOT	4,617.000				
56104900	WATER VALVES 6	EACH	8.000				
56105200	WATER VALVES 12	EACH	20.000				
56200300	WATER SERV LINE 1	FOOT	82.000				
56400100	FIRE HYDNPTS TO BE MVD	EACH	8.000				
56400300	FIRE HYDNPTS TO BE ADJ	EACH	2.000				
56500400	DOM MET VLTS REM	EACH	1.000				
56500700	DOM WAT SER BOX REM	EACH	3.000				
56500800	DOM WAT SER BOX	EACH	3.000				
59100100	GEOCOMPOSITE WALL DR	SQ YD	590.000				
60100060	CONC HDWL FOR P DRAIN	EACH	47.000				
60100915	PIPE DRAINS 6	FOOT	1,000.000				
60100925	PIPE DRAINS 8	FOOT	1,000.000				
60100935	PIPE DRAINS 10	FOOT	1,000.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60100945	PIPE DRAINS 12	FOOT	1,000.000				
60100955	PIPE DRAINS 15	FOOT	1,000.000				
60100965	PIPE DRAINS 18	FOOT	1,000.000				
60108100	PIPE UNDERDRAIN 4 SP	FOOT	2,127.000				
60218300	MAN TA 4 DIA T1F OL	EACH	6.000				
60218400	MAN TA 4 DIA T1F CL	EACH	31.000				
60218500	MAN TA 4 DIA T3F&G	EACH	20.000				
60219000	MAN TA 4 DIA T8G	EACH	3.000				
60219300	MAN TA 4 DIA T11F&G	EACH	2.000				
60221000	MAN TA 5 DIA T1F OL	EACH	1.000				
60221100	MAN TA 5 DIA T1F CL	EACH	11.000				
60221200	MAN TA 5 DIA T3F&G	EACH	3.000				
60222000	MAN TA 5 DIA T11F&G	EACH	1.000				
60223800	MAN TA 6 DIA T1F CL	EACH	7.000				
60224005	MAN TA 6 DIA T8G	EACH	1.000				

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60224126	MH TYA 7 DIA, AFG 15	EA	2.000				
60224446	MAN TA 7 DIA T1F CL	EACH	15.000				
60224459	MAN TA 8 DIA T1F CL	EACH	5.000				
60234200	INLETS TA T1F OL	EACH	8.000				
60235700	INLETS TA T3F&G	EACH	145.000				
60235800	INLETS TA T4F&G	EACH	1.000				
60236200	INLETS TA T8G	EACH	40.000				
60236800	INLETS TA T11F&G	EACH	3.000				
60238305	INLET TA M INL 604101	EACH	6.000				
60240210	INLETS TB T1F OL	EACH	6.000				
60240215	INLETS TB T1F CL	EACH	2.000				
60240220	INLETS TB T3F&G	EACH	80.000				
60240301	INLETS TB T8G	EACH	12.000				
60240310	INLETS TB T11F&G	EACH	7.000				
60240366	INLET TB M INL 604106	EACH	1.000				

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60265700	VV ADJUST	EACH	2.000				
60266100	VV RECONST	EACH	3.000				
60266600	VALVE BOX ADJ	EACH	4.000				
60406100	FR & LIDS T1 CL	EACH	1.000				
60603800	COMB CC&G TB6.12	FOOT	8,794.000				
60604400	COMB CC&G TB6.18	FOOT	65.000				
60605000	COMB CC&G TB6.24	FOOT	48,105.000				
60618300	CONC MEDIAN SURF 4	SQ FT	26,813.000				
61100605	MISC CONCRETE	CU YD	6.000				
61101007	STORM SEW PROT A 6	FOOT	1,000.000				
61101009	STORM SEW PROT A 8	FOOT	1,000.000				
61101011	STORM SEW PROT A 10	FOOT	1,000.000				
61101013	STORM SEW PROT A 12	FOOT	1,000.000				
61101017	STORM SEW PROT A 15	FOOT	1,000.000				
61101020	STORM SEW PROT A 18	FOOT	1,000.000				

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61133100	FLD TILE JUN VAULT 2D	EACH	20.000				
61133200	FLD TILE JUN VAULT 3D	EACH	20.000				
61139900	STORM SEWER SPEC 6	FOOT	1,500.000				
61140000	STORM SEWER SPEC 8	FOOT	1,500.000				
61140100	STORM SEWER SPEC 10	FOOT	1,500.000				
61140200	STORM SEWER SPEC 12	FOOT	1,500.000				
61140400	STORM SEWER SPEC 15	FOOT	1,500.000				
61140600	STORM SEWER SPEC 18	FOOT	1,500.000				
63000001	SPBGR TY A 6FT POSTS	FOOT	475.000				
63100045	TRAF BAR TERM T2	EACH	1.000				
63100070	TRAF BAR TERM T5	EACH	1.000				
63100085	TRAF BAR TERM T6	EACH	4.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	4.000				
63200310	GUARDRAIL REMOV	FOOT	1,345.000				
63500105	DELINEATORS	EACH	137.000				

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64200116	SHOULDER RUM STRIP 16	FOOT	50,139.000				
66600105	FUR ERECT ROW MARKERS	EACH	127.000				
66700205	PERM SURV MKRS T1	EACH	19.000				
66900200	NON SPL WASTE DISPOSL	CU YD	9,900.000				
66900400	SPL WAST GRD WAT DISP	GALLON	25,000.000				
66900450	SPL WASTE PLNS/REPORT	L SUM	1.000				
66900530	SOIL DISPOSAL ANALY	EACH	5.000				
66901000	BACKFILL PLUGS	CU YD	50.000				
67000400	ENGR FIELD OFFICE A	CAL MO	30.000				
67100100	MOBILIZATION	L SUM	1.000				
67201000	SEAL ABAN WATER WELLS	EACH	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	661.000				
70106800	CHANGEABLE MESSAGE SN	CAL MO	66.000				
70300100	SHORT TERM PAVT MKING	FOOT	490.000				
70300210	TEMP PVT MK LTR & SYM	SQ FT	2,434.000				

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70300220	TEMP PVT MK LINE 4	FOOT	370,087.000				
70300240	TEMP PVT MK LINE 6	FOOT	12,529.000				
70300250	TEMP PVT MK LINE 8	FOOT	15,189.000				
70300260	TEMP PVT MK LINE 12	FOOT	9,580.000				
70300280	TEMP PVT MK LINE 24	FOOT	922.000				
70300900	PAVT MARK TAPE T4 L&S	SQ FT	939.000				
70300904	PAVT MARK TAPE T4 4	FOOT	322,254.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	108,521.000				
70400100	TEMP CONC BARRIER	FOOT	1,913.000				
70400200	REL TEMP CONC BARRIER	FOOT	420.000				
70500100	TEMP SPBGR TY A	FOOT	25.000				
70500615	TEMP TR BAR TERM T1	EACH	2.000				
70500665	TEMP TR BAR TERM T6	EACH	2.000				
70600240	IMP ATTN TEMP NRD TL2	EACH	12.000				
70600340	IMP ATTN REL NRD TL2	EACH	2.000				

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72000100	SIGN PANEL T1	SQ FT	933.000				
72000200	SIGN PANEL T2	SQ FT	84.000				
73000100	WOOD SIN SUPPORT	FOOT	2,346.000				
78003130	PREF PL PM TB LINE 6	FOOT	11,352.000				
78009000	MOD URETH PM LTR-SYM	SQ FT	1,918.000				
78009004	MOD URETH PM LINE 4	FOOT	133,564.000				
78009006	MOD URETH PM LINE 6	FOOT	1,177.000				
78009008	MOD URETH PM LINE 8	FOOT	15,189.000				
78009012	MOD URETH PM LINE 12	FOOT	7,603.000				
78009024	MOD URETH PM LINE 24	FOOT	505.000				
78100100	RAISED REFL PAVT MKR	EACH	1,362.000				
78100105	RAISED REF PVT MKR BR	EACH	16.000				
78100300	REPLACEMENT REFLECTOR	EACH	180.000				
78200100	MONODIR PRIS BAR REFL	EACH	12.000				
78200300	PRISMATIC CURB REFL	EACH	376.000				

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78200410	GUARDRAIL MKR TYPE A	EACH	12.000				
78201000	TERMINAL MARKER - DA	EACH	6.000				
78300100	PAVT MARKING REMOVAL	SQ FT	799.000				
78300200	RAISED REF PVT MK REM	EACH	98.000				
80400100	ELECT SERV INSTALL	EACH	1.000				
80500010	SERV INSTALL GRND MT	EACH	2.000				
81028200	UNDRGRD C GALVS 2	FOOT	286.000				
81028220	UNDRGRD C GALVS 3	FOOT	44.000				
81028240	UNDRGRD C GALVS 4	FOOT	687.000				
81028320	UNDRGRD C PVC 1	FOOT	393.000				
81028350	UNDRGRD C PVC 2	FOOT	3,429.000				
81028360	UNDRGRD C PVC 2 1/2	FOOT	205.000				
81028370	UNDRGRD C PVC 3	FOOT	114.000				
81028390	UNDRGRD C PVC 4	FOOT	115.000				
81028750	UNDRGRD C CNC 2	FOOT	470.000				

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81028770	UNDRGRD C CNC 3	FOOT	120.000				
81400700	HANDHOLE PCC	EACH	18.000				
81400720	DBL HANDHOLE PCC	EACH	2.000				
81603030	UD 2#4 #6G XLPUSE 1	FOOT	285.000				
81603040	UD 2#6 #8G XLPUSE 1	FOOT	7,770.000				
81702150	EC C XLP USE 1C 2	FOOT	200.000				
81702450	EC C XLP USE 3-1C 10	FOOT	5,205.000				
82102400	LUM SV HOR MT 400W	EACH	33.000				
82500340	LT CONT PEDM 480V 60	EACH	1.000				
83010500	LT P A 50MH 12MA	EACH	26.000				
83600300	LIGHT POLE FDN 30D	FOOT	182.000				
83800205	BKWY DEV TR B 15BC	EACH	26.000				
84200600	REM LT U NO SALV	EACH	2.000				
84200804	REM POLE FDN	EACH	2.000				
84400105	RELOC EX LT UNIT	EACH	1.000				

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85000200	MAIN EX TR SIG INSTAL	EACH	1.000				
85000500	MAIN EX FL BEACON INS	EACH	1.000				
86000100	MASTER CONTROLLER	EACH	1.000				
86200300	UNINTER POWER SUP EXT	EACH	2.000				
86400100	TRANSCEIVER - FIB OPT	EACH	2.000				
87100160	FO CAB C 62.5/125 24F	FOOT	2,891.000				
87300925	ELCBL C TRACER 14 1C	FOOT	2,891.000				
87301215	ELCBL C SIGNAL 14 2C	FOOT	1,363.000				
87301225	ELCBL C SIGNAL 14 3C	FOOT	2,671.000				
87301245	ELCBL C SIGNAL 14 5C	FOOT	4,113.000				
87301255	ELCBL C SIGNAL 14 7C	FOOT	3,031.000				
87301305	ELCBL C LEAD 14 1PR	FOOT	7,246.000				
87301805	ELCBL C SERV 6 2C	FOOT	261.000				
87301900	ELCBL C EGRDC 6 1C	FOOT	4,970.000				
87502440	TS POST GALVS 10	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

66B83

State Job # - C-93-049-12

County Name - GRUNDY- KENDALL-
 Code - 63 - 93 -
 District - 3 - 3 -
 Section Number - (110)R,BR & BR-1

Project Number
 ACNCII-0326/088/

Route
 FAP 326

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
87502500	TS POST GALVS 16	EACH	6.000				
87601100	PED P-B POST GALVS T1	EACH	3.000				
87702985	STL COMB MAA&P 52	EACH	2.000				
87702990	STL COMB MAA&P 54	EACH	1.000				
87703040	STL COMB MAA&P 62	EACH	1.000				
87703080	STL COMB MAA&P 68	EACH	2.000				
87703110	STL COMB MAA&P 74	EACH	1.000				
87800100	CONC FDN TY A	FOOT	27.000				
87800150	CONC FDN TY C	FOOT	6.000				
87800415	CONC FDN TY E 36D	FOOT	45.000				
87800420	CONC FDN TY E 42D	FOOT	96.000				
88000105	FLASH BEACON INSTALL	EACH	1.000				
88040070	SH P LED 1F 3S BM	EACH	5.000				
88040090	SH P LED 1F 3S MAM	EACH	12.000				
88040110	SH P LED 1F 4S BM	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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66B83

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Project Number
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Route
 FAP 326

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
88040120	SH P LED 1F 4S MAM	EACH	3.000				
88040150	SH P LED 1F 5S BM	EACH	6.000				
88040160	SH P LED 1F 5S MAM	EACH	6.000				
88102825	PED SH P LED 1F BM CT	EACH	8.000				
88200410	TS BACKPLATE L F PLAS	EACH	33.000				
88500100	INDUCTIVE LOOP DETECT	EACH	24.000				
88600100	DET LOOP T1	FOOT	2,747.000				
88700200	LIGHT DETECTOR	EACH	7.000				
88700300	LIGHT DETECTOR AMP	EACH	2.000				
88800100	PED PUSH-BUTTON	EACH	8.000				
89000100	TEMP TR SIG INSTALL	EACH	1.000				
89502375	REMOV EX TS EQUIP	EACH	1.000				
89502380	REMOV EX HANDHOLE	EACH	8.000				
89502382	REMOV EX DBL HANDHOLE	EACH	1.000				
89502385	REMOV EX CONC FDN	EACH	5.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

66B83

State Job # - C-93-049-12

County Name - GRUNDY- KENDALL-
 Code - 63 - 93 -
 District - 3 - 3 -
 Section Number - (110)R,BR & BR-1

Project Number
 ACNCII-0326/088/

Route
 FAP 326

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
89502400	REM EX FB INSTAL COMP	EACH	1.000				

CONTRACT NUMBER

66B83

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

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. 66B83
GRUNDY-KENDALL Counties
Section (110)R, BR & BR-1
Project ACNCII-0326(088)
Route FAP 326
District 3 Construction Funds

PART I. IDENTIFICATION

Dept. Human Rights # _____ Duration of Project: _____

Name of Bidder: _____

PART II. WORKFORCE PROJECTION

A. The undersigned bidder has analyzed minority group and female populations, unemployment rates and availability of workers for the location in which this contract work is to be performed, and for the locations from which the bidder recruits employees, and hereby submits the following workforce projection including a projection for minority and female employee utilization in all job categories in the workforce to be allocated to this contract:

TABLE A

Table with 13 columns: JOB CATEGORIES, TOTAL EMPLOYEES (M, F), MINORITY EMPLOYEES (BLACK, HISPANIC, *OTHER MINOR. (M, F)), and TRAINEES (APPRENTICES, ON THE JOB TRAINEES (M, F)). Rows include OFFICIALS, SUPERVISORS, FOREMEN, CLERICAL, EQUIPMENT OPERATORS, MECHANICS, TRUCK DRIVERS, IRONWORKERS, CARPENTERS, CEMENT MASONS, ELECTRICIANS, PIPEFITTERS/PLUMBERS, PAINTERS, LABORERS (SEMI-SKILLED, UNSKILLED), and TOTAL.

TABLE B

Table with 4 columns: CURRENT EMPLOYEES TO BE ASSIGNED TO CONTRACT, TOTAL EMPLOYEES (M, F), and MINORITY EMPLOYEES (M, F).

TABLE C

Table with 5 columns: EMPLOYEES IN TRAINING, TOTAL EMPLOYEES (M, F), BLACK (M, F), HISPANIC (M, F), and *OTHER MINOR. (M, F). Rows include APPRENTICES and ON THE JOB TRAINEES.

*Other minorities are defined as Asians (A) or Native Americans (N). Please specify race of each employee shown in Other Minorities column.

FOR DEPARTMENT USE ONLY

BC 1256 (Rev. 12/11/07)

Note: See instructions on page 2

RETURN WITH BID

**Contract No. 66B83
GRUNDY-KENDALL Counties
Section (110)R, BR & BR-1
Project ACNCII-0326(088)
Route FAP 326
District 3 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. 66B83
GRUNDY-KENDALL Counties
Section (110)R, BR & BR-1
Project ACNCII-0326(088)
Route FAP 326
District 3 Construction Funds**

PROPOSAL SIGNATURE SHEET

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

(IF AN INDIVIDUAL)

Firm Name _____
Signature of Owner _____
Business Address _____

(IF A CO-PARTNERSHIP)

Firm Name _____
By _____
Business Address _____
Name and Address of All Members of the Firm: _____

(IF A CORPORATION)

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

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

Attest _____
Signature _____
Business Address _____

(IF A JOINT VENTURE)

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

Attest _____
Signature _____
Business Address _____

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



Return with Bid

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

Item No. _____

Letting Date _____

KNOW ALL MEN BY THESE PRESENTS, That We _____

as PRINCIPAL, and _____

_____ as SURETY, are held jointly, severally and firmly bound unto the STATE OF ILLINOIS in the penal sum of 5 percent of the total bid price, or for the amount specified in 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, submit a DBE Utilization Plan that is accepted and approved by the Department; and if, after award by the Department, the PRINCIPAL shall enter into a contract in accordance with the terms of the bidding and contract documents including evidence of the required insurance coverages and providing such bond as specified with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof; or if, in the event of the failure of the PRINCIPAL to make the required DBE submission or to enter into such contract and to give the specified bond, the PRINCIPAL pays to the Department the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the Department may contract with another party to perform the work covered by said bid proposal, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

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

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

their respective officers this _____ day of _____ A.D., _____.

PRINCIPAL

SURETY

(Company Name)

(Company Name)

By _____ (Signature & Title)

By: _____ (Signature of Attorney-in-Fact)

Notary Certification for Principal and Surety

STATE OF ILLINOIS,
County of _____

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

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

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

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

My commission expires _____

Notary Public

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

Electronic Bid Bond ID# _____

Company / Bidder Name _____

Signature and Title _____



(1) Policy

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

(2) Obligation

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

(3) Project and Bid Identification

Complete the following information concerning the project and bid:

Route _____	Total Bid _____
Section _____	Contract DBE Goal _____ (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

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. 66B83
GRUNDY-KENDALL Counties
Section (110)R, BR & BR-1
Project ACNCII-0326(088)
Route FAP 326
District 3 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)



NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation. 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. November 8, 2013. 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. 66B83
GRUNDY-KENDALL Counties
Section (110)R, BR & BR-1
Project ACNCII-0326(088)
Route FAP 326
District 3 Construction Funds**

Reconstruction of 2 lane (NB and SB) pavement along IL 47 from north of I-80 in Morris to north of Sherrill Rd., and removal and replacement of the bridges carrying IL 47 over Saratoga Creek and Valley Run Creek (SN032-0089, 0088).

- 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, 2013

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 1-1-13)

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RECURRING SPECIAL PROVISIONS

The following RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

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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 FAP Route 326 (IL 47), Project ACNCII-0326(088), Section (110)R, BR & BR-1, in Grundy & Kendall Counties, Contract No. 66B83 and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

Contract No. 66B83

LOCATION OF PROJECT

This project is located north of Interstate 80 in Morris along Illinois Route 47 in Grundy and Kendall Counties. It begins approximately 1,650 feet south of Granville Road and extends northerly to approximately 750 feet north of Sherrill Road, a distance of 4.5 miles.

DESCRIPTION OF PROJECT

The existing Illinois Route 47 two lane pavement will be completely reconstructed with two 12' lanes in each direction along with a 32' raised median and 12' outside shoulders. Southern portions of the reconstructed pavement will have curb and gutter with storm sewer.

The work consists of completely reconstructing Illinois Route 47 into a four lane facility with a 32 foot raised median. A suburban cross section with including 12 foot paved outside shoulders with curb and gutter and storm sewer will be provided from the southern limits of the project to Valley Run Creek. North of Valley Run Creek 8 foot paved and 2 foot aggregate shoulders with open drainage will be provided. The bridges carrying Illinois Route 47 over Saratoga Creek and Valley Run Creek will be removed and replaced. Major work items include PCC pavement and shoulders, HMA pavement, combination concrete curb and gutter, storm sewer, bridge and box culvert replacement, traffic signal installation, earthwork, water main relocation, tree removal, pavement removal, pavement marking, and all other work to complete the project.

SEQUENCE OF OPERATIONS

The contractor shall incorporate the following requirements into his Sequence of Operations.

1. At the preconstruction meeting, the Contractor shall submit a sequence of operations for approval. Deviations from the approved sequence are not allowed without the written consent of the Engineer.
2. The Contractor is allowed 300 working days to complete this project.
3. IL 47 shall remain open to two way, two lane traffic at all times except for temporary one lane closures as approved by the Engineer.
4. Temporary lighting is required for the northbound and southbound connections to the existing IL47 pavement shall become property of the state upon completion of this project. The temporary lighting shall be operational before the connections are opened to traffic.
5. No work is allowed between December 15 and March 15 unless authorized by the Engineer in writing.
6. Any temporary ramp on IL 47 between exposed pavement surfaces that remain in place longer than 1 week shall have a taper rate of 20" per inch unless approval is given by the Engineer.
7. No work will be allowed on the school entrances except between the hours of 9 p.m. to 5 a.m. without written approval from the Engineer. One entrance shall be accessible at all times.
8. Both school entrances shall be open between the hours of 5 a.m. and 9 p.m. when school is in session.
9. There are seven (7) pipelines crossing IL 47 and two (2) crossing Nelson Road. The work to coordinate with the pipelines will be as shown on the plans.

STATUS OF UTILITIES TO BE ADJUSTED:

(Effective January 1, 2007; Revised January 24, 2011)

<u>Name & Address of Utility</u>	<u>Type</u>	<u>Location</u>	<u>Estimated Date Relocation Complete</u>
ComEd, An Exelon Company Two Lincoln Centre, 8 th Floor Oakbrook Terrace, IL 60181 (ComEd Ref# H12721JOL)	Overhead Electric	Throughout on east side	Conflicts throughout. Permit required.
Nicor Gas 1844 Ferry Road Naperville, IL 60563 (Nicor Ref# SC9417)	Buried Gas	4" MOP on west 6025 to 6152 LT 6" MOP on east 6152 to 6300 RT	Conflicts throughout. Permit required. Conflicts throughout. Permit required.
AT&T 1000 Commerce Drive Oak Brook, IL 60523	Buried Telephone (copper and Fiber optic)	Throughout on east and west	Conflicts throughout. Permit required.
Comcast Cable 688 Industrial Drive Elmhurst, IL 60126	Overhead and buried CATV	Overhead on ComEd poles 6025 to 6046 RT. Underground Crossing Sta. 6042	Relocate to new ComEd Poles. Permit required. Conflict. Permit required.

<u>Name & Address of Utility</u>	<u>Type</u>	<u>Location</u>	<u>Estimated Date Relocation Complete</u>
Oneok, Inc. 4755 E. Rt 6 Morris, IL 60450	10" LPG Pipeline (in casing) MP 569	Crossing IL 47 at Sta. 6098+85, then bends SW to cross Nelson Rd at Sta. 208+12	Oneok will extend casings, vent pipes and markers to proposed ROW.
Enterprise Products Operating LP 5354 American Legion Rd SE Iowa City, IA 52240	10" NGL Pipeline (in 14" casing) MP 173	Crossing IL 47 at Sta. 6099+20, then bends SW to cross Nelson Rd at Sta. 207+80	Enterprise will extend casings across IL 47 to proposed ROW. The pipe crossing Nelson Rd will be relocated farther west.
Alliance Pipeline LP 6155 East US Hwy 6 Morris, IL 60450	36" Natural Gas pipeline MP 866.66	Crossing IL 47 at Sta. 6100+50	Pipeline markers to be relocated to proposed ROW.
Kinder Morgan/Natural Gas Pipeline Company of America 370 Van Gordon Street Lakewood, CO 80228	36" pipeline (heavy wall) 24" pipeline (in 28" casing) 36" pipeline (in 42" casing) MP 966	Crossing IL 47 at Sta. 6226+49 (#4 white line) Crossing IL 47 at Sta. 6227+21 (#2 orange line) Crossing IL 47 at Sta. 6227+88 (#3 Yellow line)	Kinder Morgan will extend casings, vent pipes and markers to proposed ROW at all locations.
Northern Border Pipeline Co. 13710 FNB Parkway Omaha, NE 68154	36" pipeline (heavy wall) MP IL-103.32	Crossing IL 47 just north of Sherrill Rd at southbound connection Sta. 29+65	Pipeline markers to be relocated to proposed ROW.
City of Morris 700 North Division Street Morris, IL 60450	Water main Sanitary sewer	12" on east side Sta. 6029 to 6204 10" on west side Sta. 6029 to 6051 Various sizes 6029 to north of Prologis Parkway	Various water main and sanitary sewer adjustments to be done as part of the roadway project.

The above represents the best information of the Department and is only included for the convenience of the bidder. The applicable provisions of Section 102 and Articles 105.07, 107.20, 107.37, 107.38, 107.39, 107.40, and 108.02 of the Standard Specifications for Road and Bridge Construction shall apply.

The estimated utility relocation dates should be part of the progress schedule submitted by the Contractor.

** Above utility relocation information reflected as of August 14, 2013, relocation complete dates are unknown at this time due to right of way acquisitions. Utility relocations are required to be complete by approximately March 1, 2014. Per SB 699 (90 day utility relocation law), once the proposed right of way is clear to award the project, a notice will be sent to the utility companies instructing them to have their facilities relocated within 90 days.

TRAFFIC CONTROL PLAN

(Revised July 3, 2013)

Traffic control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines contained in the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, these special provisions, and any special details and Highway Standards herein and in the plans.

Special attention is called to the following sections of the Standard Specifications, the Highway Standards, and the special provisions relating to traffic control:

Standard Specifications:

- Section 701 - Work Zone Traffic Control and Protection
- Section 703 - Work Zone Pavement Marking
- Section 704 - Temporary Concrete Barrier
- Section 781 - Raised Reflective Pavement Markers
- Section 783 - Pavement Marking and Marker Removal
- Section 862 - Uninterruptable Power Supply
- Section 1106 – Work Zone Traffic Control Devices

ERRATA Standard Specifications for Road and Bridge Construction

Supplemental Specifications:

- Section 701 - Work Zone Traffic Control and Protection
- Section 706 – Impact Attenuators, Temporary
- Section 780 – Pavement Striping
- Section 1106 – Work Zone Traffic Control Devices

Highway Standards:

701001	701006	701011	701101	701106	701201
701301	701306	701311	701326	701602	701701
701901	704001	BLR 17	BLR 21	BLR 22	

In addition, the following also relate to traffic control for this project:

RECURRING SPECIAL PROVISIONS

- Night Time Inspection of Roadway Lighting

SPECIAL PROVISIONS

- Changeable Message Sign
- Contractor Access
- Pavement Marking Removal/Work Zone Pavement Marking Removal
- Pavement Marking Tape Type IV (BDE)
- Raised Reflective Pavement Marker Reflector Removal
- Temporary Paint Pavement Marking
- Traffic Control and Protection (Special)
- Suitable Access
- Local Road Closures
- Temporary Information Sign
- Traffic Control Deficiency Deduction (BDE)

TRAFFIC CONTROL SURVEILLANCE: In addition to the Standard Specifications for Article 701.10 Surveillance, this item will be required when Stage 1, 2, 3 and 4 traffic control, and when Traffic Standard 701326 is in place.

TRAFFIC CONTROL AND PROTECTION (SPECIAL)

Description: This work shall consist of providing all labor, equipment and materials necessary to provide and maintain all traffic control and protection for the duration of the project as shown on the plans except for those items which are paid for separately.

The traffic control and protection shall be in accordance with the, traffic control plan special provision, staging plans and the applicable portions of Sections 701 & 703 of the Standard Specifications.

Method of Measurement: This work will be measured for payment by lump sum.

Basis of Payment: This work shall be paid for at the contract lump sum price for TRAFFIC CONTROL & PROTECTION (SPECIAL).

SUITABLE ACCESS

All commercial, private, and field entrances within the limits of improvements shall have suitable access, as determined by the Engineer, at all times during construction of this project. Estimated quantities of aggregate surface course for temporary access (AGGREGATE FOR TEMPORARY ACCESS) have been included in the plans for this purpose. The Engineer will determine the amount and when to place the aggregate. The Contractor shall begin placement of the aggregate within 2 hours of notice to proceed from the Engineer or the Contractor will be liable for liquidated damages in accordance with Article 108.09 of the Standard Specifications.

LOCAL ROAD CLOSURES

Notifications: Prior to the closure of any side road, the Contractor shall provide a minimum of seven (7) days' notice to the following emergency service units, governmental agencies and school districts:

County Engineer:	Craig Cassem, Grundy County	(815) 942-0363
	Fran Klaas, Kendall County	(630) 553-7616
Saratoga Township	Highway Commissioner	(815) 942-2139
Sheriff	Grundy County Sheriff	(815) 942-6645
	Kendall County Sheriff	(630) 553-7500
Police Department:	Morris Police Department	(815) 942-2131
Fire & Ambulance:	Morris Fire Department	(815) 942-2121
Schools:	Saratoga Comm. School Dist.	(815) 942-5970
	Morris Community High	(815) 942-1294
Post Office:	Morris, IL	(815) 942-0345

Requirements:

- Closure shall be according to the Staging Plans and applicable Highway Standards.
- Stage 2
 - Granville Road may be closed for a maximum of 30 days to reconstruct the roadway. Due to elevation differences between the proposed IL 47 roadway and the existing roadway elevation this closure will not be allowed until the end of Stage 2 so that Stage 3 will commence as soon as Granville Road reconstruction is completed.
 - At the Contractor's option and subject to the Engineer's approval the Contractor may close Granville Road for the construction of the proposed box culvert under Granville Road prior to the closure for roadway reconstruction. This closure is limited to 15 calendar days. In addition, the Contractor shall schedule operations so that these closures do not occur consecutively or within 30 calendar day of each other.
- Stage 3
 - Prologis Parkway it to remain open at all times
 - The local road closures involving Nelson Road, Airport Road, Minooka Road (West Leg) and Sherrill Road (West Leg) shall be scheduled to ensure consecutive roads are not under a closure at the same time.
 - Airport Road will be constructed in two sub-stages to maintain access to the Grace Lutheran Church. In Stage 3A, the western portion will be reconstructed to station 307+75. In Stage 3B the remainder of Airport Road including the IL 47 intersection will be reconstructed. During both stages Airport Road will be closed to thru traffic and the total closure length shall not exceed 30 calendar days.
- Stage 4
 - The local road closures involving Minooka Road (East Leg) and Sherrill Road (East Leg) shall be scheduled to ensure they are not under closure at the same time.
- Unless otherwise stated, all side road closures shall be limited to a single 30 calendar day period.

- By the end of the 30 day calendar period the side road must be open to two way traffic during non-working hours, and limited to single lane, flagger controlled closures during working hours.

Failure to Complete Work on Time: Should the Contractor fail to complete the individual side road reconstructions within the 30 calendar day period or within such extended time allowed by the Department, it will be considered traffic control deficiency and will be treated in accordance with Article 105.03(b) of the Standard Specifications.

CONTRACTOR ACCESS

(Revised August 15, 2005; Revised January 1, 2008)

At road closure locations where Type III barricades are installed in a manner that will not allow contractor access to the project without relocation of one or more of the barricades, the arrangement of the barricades at the beginning of each work day may be altered, when approved by the Engineer, in the manner shown on Highway Standard 701901 for Road Closed to Through Traffic. "Road Closed" signs (R11-2), supplemented by "Except Authorized Vehicles" signs (R3-1101), shall be mounted on both the near right and the far left barricade(s). At the end of each work day, the barricades shall be returned to their in-line positions. This work will not be paid for separately, but shall be included in the associated traffic control pay items.

Additional barricades, drums or cones, required by the Engineer to control traffic when relocation for contractor access is used, will not be paid for separately, but shall be included in the associated traffic control pay items.

CHANGEABLE MESSAGE SIGN

(Effective December 1, 1999; Revised August 7, 2008)

In addition to any changeable message signs shown in the traffic control standards, the Contractor shall furnish 2 Changeable Message Signs for this project. The signs shall be operational two weeks prior to any lane closure and shall be located as directed by the Engineer. Any relocation of the signs directed by the Engineer during construction will not be paid for separately, but shall be included in the cost of the Changeable Message Sign.

TEMPORARY EASEMENTS

It is the intention of the Department that any Temporary Easement area be used only for the purpose of highway for which it was obtained. If the Contractor wishes to use a Temporary Easement Area for other uses such as equipment and material storage, he shall obtain written permission from the property owner and provide a copy to the Engineer prior to using the area.

DUST CONTROL--HAULING EARTH, GRANULAR MATERIALS OR WASTE MATERIAL
(Effective November 16, 1993)

In addition to the general requirements of Section 107 of the Standard Specifications, the Contractor shall be required to prepare a plan for pavement cleaning and dust control for this project. A detailed plan outlining specific wetting, tarping, and/or cleaning procedures, or similar dust control methods is to be submitted for approval at the preconstruction meeting.

As required by Chapter 95 1/2, paragraphs 15-109 and 15-109.1 of the Illinois Vehicle Code, no blowing or spillage of material will be allowed during the hauling operations. The specific preventative measures proposed by the Contractor are to be included in the dust control plan.

If, in the opinion of the Engineer, excessive dust is produced during the hauling operations, the hauling shall stop until corrective action is taken.

Approval of the dust control and pavement cleaning procedures will not relieve the Contractor of his responsibility to provide a safe work zone for the traveling public.

No additional compensation will be allowed for dust alleviation.

WETLAND AREAS

(Effective April 3, 1997; Revised April 22, 2010)

Description: According to Federal Executive Order 11990, dated May 24, 1977, and Articles 107.01 and 107.23 of the Standard Specifications, the Contractor shall protect the wetland areas on or adjacent to this project.

This work shall consist of constructing, maintaining, removing, and disposing of a temporary fence, perimeter erosion barrier, and signs as shown on the plans and as described herein.

Materials: Temporary fence shall be a minimum of 4 ft. (1.2 m) in height and shall be a high visibility orange snow fence. Fence stakes shall meet the requirements of Article 1081.15(b) of the Standard Specifications.

Perimeter erosion barrier shall meet the requirements of Section 280 of the Standard Specifications.

Signs shall meet the requirements of Article 720.02 of the Standard Specifications and shall be 9" x 12" (225 mm x 300 mm) and shall read "Federally Protected Wetlands: KEEP OUT." Sign supports shall meet the requirements of Section 1093 of the Standard Specifications.

Construction Requirements: The Contractor shall install fence at all wetland areas as shown on the plans. The Contractor shall also install a minimum of two signs at each wetland location. Signs shall not be spaced greater than 300' (100 m) apart.

The Contractor shall remove the temporary fence at the completion of the project.

Method of Measurement: The temporary fence will be measured for payment in place in feet (meters) along the top of the fence. The signs, sign supports, and fence stakes will not be measured for payment.

Perimeter erosion barrier will be measured for payment according to Article 280.07 of the Standard Specifications.

Basis of Payment: The temporary fence will be paid for at the contract unit price per foot (meter) for TEMPORARY FENCE, which price shall include the cost of the snow fence, fence stakes, signs, and sign supports.

Perimeter erosion barrier will be paid for according to Article 280.08 of the Standard Specifications.

TEMPORARY CONSTRUCTION/WATERWAY PERMITS (CORPS OF ENGINEERS)
(Effective January 1, 2001; Revised January 1, 2007)

Temporary in-stream work for proposed construction activities has been authorized from the Army Corps of Engineers using the following guidelines:

All requests made by the Contractor shall refer to Permit No. **CEMVR-OD-P-2013-775** for Structure Number: **032-0089 (E)/032-0122(P)**.

- (Area) \pm 230 sq. yd.
- (Location): Actual location to be determined in the field to suit actual construction needs
- (Material Type): Clean coarse aggregates.
- (Additional Restrictions): Dewatering methods will be at the option of the contractor. The stream channel within the right-of-way limits must be cleaned and all temporary instream works shall be removed from the stream channel and taken to an upland site upon completion of the project

All requests made by the Contractor shall refer to Permit No. **CEMVR-OD-P-2013-779** for Structure Number **032-0088 (E)/032-0132(P)**.

- (Area) \pm 70 sq. yd.
- (Location) Actual location to be determined in the field to suit actual construction needs.
- (Material Type) Clean coarse aggregates.
- (Additional Restrictions) Dewatering methods will be at the option of the contractor. The stream channel within the right-of-way limits must be cleaned and all temporary instream works shall be removed from the stream channel and taken to an upland site upon completion of the project.

Should the Contractor desire to deviate from the guidelines currently imposed under the permit as listed above, then full design details including location, material specifications, and hydraulic analysis should be included in a request to the Army Corps of Engineers. Requests shall be made to United States Army Corps of Engineers, Rock Island District, Clock Tower Building, Rock Island, IL 61204.

Any additional request is at the discretion of the Contractor, therefore, any delays in receiving approval for various methods outside of the given parameters will **not** be cause for additional compensation.

TEMPORARY CONSTRUCTION/WATERWAY PERMITS (IDNR)

(Effective January 1, 2001; Revised January 1, 2007)

The temporary construction activities required for completion of the permanent structure are authorized by statewide Permit #13 from the Illinois Department of Natural Resources (IDNR), provided the following conditions are met:

1. The term "temporary" shall mean not more than one construction season; all temporary construction materials must be removed from the stream and floodway within one year of their placement and the area returned to the conditions existing prior to the beginning of construction. Any desired subsequent or repetitive material placement shall not occur without the review and approval of the Office of Water Resources.
2. The temporary project shall be constructed such that it will not cause erosion or damage due to increases in water surface profiles to adjacent properties. For locations where there are structures in the upstream floodplain, the temporary project shall be constructed such that all water surface profile increases due to the temporary project are contained within the channel banks.

This permit does not authorize the placement or construction of any solid embankment or wall such as a dam, roadway, levee, or dike across any channel or floodway.

3. No temporary structure shall be placed within any river or stream channel until a registered professional engineer determines and documents that the temporary structure will meet the requirements of Special Condition 3 of this permit (Item #2 listed above.) Such documentation shall include, at a minimum, confirmation that no buildings or structures will be impacted by the backwater induced by the temporary structure.
4. Disturbance of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation and Section 280 of the Standard Specifications shall be followed.
5. Materials used shall not cause water pollution as defined by the Environmental Protection Act (415 ILCS 5).

Should the Contractor desire to deviate from the conditions of the statewide Permit #13, a formal permit application shall be submitted by the Contractor to the Illinois Department of Natural Resources, Office of Water Resources, 524 South Second Street, Springfield, IL 62704. Any permit application by the Contractor shall refer to IDNR Permit Number HYS12-003-2013 (S.N.032-0088), IDNR Permit Number HYS12-004-2013 (S.N. 032-0089) which was/were issued for the permanent construction.

INITIAL SITE PREPARATION AND SUBGRADE TREATMENT

In addition to the requirements of Sections 205 and 301 of the Standard Specifications, the following requirements shall apply:

Site Preparation and Earthwork

- Topsoil within the limits of the proposed pavement and shoulders shall be removed. This work will be paid for as EARTH EXCAVATION, or if used for topsoil purposes, TOPSOIL EXCAVATION AND PLACEMENT.
- The stability of the exposed soils will be observed for the presence of any unsuitable and unstable soils. The soils shall be proof rolled to observe the amount of deflection and rutting taking place under the wheels of heavy construction equipment.

Subgrade Treatment and Recommendations

- For embankments greater than 8 feet in height, no site preparation action required, other than what is required in the Standard Specifications.
- The existing soils may be prone to swelling upon wetting. Therefore, at locations where new embankment fill height is greater than 2 feet and less than 8 feet, the top 6 inches of subgrade soils shall be disked, dried, and re-compacted between 2% and 4% greater than the optimum moisture content. *No additional compensation will be provided for diskings, drying and re-compacting.*
- For pavement sections to be placed directly on top of the natural ground after topsoil is stripped, removal of an additional 6 inches of soil below the bottom of the proposed 12-inch aggregate subgrade and replacement with additional aggregate subgrade is anticipated. Geotechnical fabric for ground stabilization shall be placed at the base of these subgrade excavations in accordance with Section 210 of the Standard Specifications.
- Areas anticipated to require additional diskings and recompacting or removal and replacement are summarized in the table below and will be reviewed by the Engineer during proof rolling:

Location	Treatment Width	Treatment Type	Treatment Depth
6029+00 to 6037+50	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
6043+50 to 6049+50	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
6067+50 to 6070+50	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
6076+50 to 6079+50	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
6100+50 to 6106+50	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
6115+50 to 6121+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6127+50 to 6142+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6148+50 to 6151+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6157+50 to 6166+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6169+50 to 6173+50	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
6199+50 to 6202+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6214+50 to 6223+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6227+00 to 6230+00	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6244+50 to 6247+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
6262+50 to 6277+50	Full Embankment Width	Disk, Dry, and Recompact	6 inches
Nelson Road 201+50 to 207+50	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
Minooka Road 411+00 to 415+00	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches
Sherrill Road 510+00 to 515+25	Full Pavement Width	Aggregate Subgrade and Fabric	6 inches

Roadway Drainage

- The clayey subgrade will exhibit poor drainage characteristics. The proposed subgrade and pavement should have proper surface grading to remove water accumulations and prevent the pooling of water.
- 4 inch diameter longitudinal underdrains shall be installed 6 inches below the bottom of the 12 inch aggregate subgrade improvement. The underdrains shall conform with the Special Provision Pipe Underdrains 4" (Modified)

- 4-inch diameter transverse underdrains shall installed at the low points of all aggregate subgrade locations at a depth 6 inches below the bottom of the undercut. The underdrains shall conform with the Special Provision Pipe Underdrains 4" (Modified)

Filling and Backfilling

- Soils excavated from Station 6115+00 to Station 6140+00 and Station 6229+00 to Station 6239+00 are expected to have high plasticity (LL and PI) and may be prone to swelling upon wetting, and will be tested prior to being used as embankment. Soils shall not be used as embankment fill unless they have LL less than 50%, PI between 12 and 20%, a Maximum Dry Density greater than 90 pcf, and organic content less than 10%.

BORROW AND FURNISHED EXCAVATION

(Revised January 1, 2010)

In addition to the requirements of Section 204 of the Standard Specifications for suitable materials, the following restrictions shall apply:

1. The moisture content of the material as it is incorporated into the embankment shall be between 80% to 110% of AASHTO T99 optimum.
2. A 3 ft. (1 m) minimum cover of other suitable material shall be maintained outside of and on top of the embankment.
3. If the liquid limit of the material is greater than or equal to 50, the material shall not be used for capping, shall not be placed within 20 feet of any structure, and shall not be placed in locations where it may come into contact with water.
4. Embankment capping material (as outlined in #2) shall meet non-frost susceptibility criteria as outlined in the statewide Geotechnical Manual. Materials are considered frost susceptible when the soil contains at least 65% silt and sand content, according to AASHTO T88 and the Plasticity Index is less than 12.

EMBANKMENT

(Effective July 1, 1990; Revised January 1, 2007)

This work shall be performed in accordance with Section 205 of the Standard Specifications except that the embankment material shall not be placed and compacted at moisture contents in excess of 110 percent of optimum moisture unless authorized, in writing, by the Engineer.

Topsoil material shall not be placed in the embankment within 12 in. (300 mm) of high type base and surface courses.

AGGREGATE SUBGRADE IMPROVEMENT (DISTRICT 3)

(Effective April 1, 2012; Revised January 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 Aggregate1004.06
(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 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. The RAP shall not be gap graded, single sized, or have a maximum size of less than 3/4 in. (19 mm).

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 and 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 inches (75 mm) of aggregate gradations CA 06 or CA 10.

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 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 thickness less than or equal to 12 inches (300 mm) shall be CS 02.

The coarse aggregate gradation for total subgrade thickness more than 12 inches (300 mm) shall be CS 01 or CS 02.

COARSE AGGREGATE SUBGRADE					
Grad No.	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	

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	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 inch (75 mm) capping aggregate shall be gradation CA 6 or CA 10."

MULCH METHOD 2

(Effective August 1, 1994; Revised January 1, 2007)

Article 251.03 Method 2 Procedure 1 of the Standard Specifications shall be required for this improvement.

AGGREGATE SURFACE COURSE, TYPE B
(Effective January 1, 2007)

Add the following to Article 402.07 of the Standard Specifications:

The top layer shall be given a final rolling with a roller meeting the requirements of Article 1101.01.

AGGREGATE FOR TEMPORARY ACCESS

Description. This work shall consist of constructing and maintaining an aggregate surface for temporary roads, approaches, and entrances according to Article 402.07 and as directed by the Engineer.

Add the following to Article 402.10 of the Standard Specifications:

“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 match the existing entrance width. The minimum compacted thickness shall be 6 in. The maximum grade shall be eight percent, except as required to match the existing grade.
- (b) Commercial Entrance. The minimum width shall match the existing entrance width. The minimum compacted thickness shall be 9 in. The maximum grade shall be six percent, except as required to match the existing grade.
- (c) Field Entrance. The minimum width shall match the existing entrance width. The minimum compacted thickness shall be 6 in. The maximum grade shall be eight percent, except as required to match the existing grade.
- (d) Side Road. The minimum width shall match the existing entrance width minimum compacted thickness shall be 9 in. The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

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

Method of Measurement. This work will be measured for payment by ton.

Basis of Payment. This work will be paid for at the contract unit price per ton for AGGREGATE FOR TEMPORARY ACCESS.

HOT-MIX ASPHALT SURFACE COURSE, CUT OFF DATE
 (Effective January 1, 2007)

Placement of Hot-Mix Asphalt Surface Course will not be permitted after October 15 unless approved, in writing, by the Engineer.

HOT-MIX ASPHALT – PRIME COAT (BMPR)
 (Effective: February 19, 2013)

Revise Note 1 of Article 406.02 of the Standard Specifications to read:

“Note 1. The bituminous material used for prime coat shall be one of the types listed in the following table. When more than one type is shown for a particular application, the Engineer reserves the right to specify the type which shall be used.

When emulsified asphalts are used, any dilution with water shall be performed by the emulsion producer. The emulsified asphalt shall be thoroughly agitated within 24 hours of application and show no separation of water and emulsion.

Application	Bituminous Material Types
Prime Coat on Brick, Concrete, or HMA Bases	SS-1, SS-1h, SS-1hP, SS-1vh, CSS-1, CSS-1h, CSS-1hP, HFE-90, RC-70
Prime Coat on Aggregate Bases	MC-30, PEP”

Revise Article 406.05(b) of the Standard Specifications to read:

“(b) Prime Coat. The bituminous material shall be prepared according to Article 403.05 and applied according to Article 403.10. The use of RC-70 shall be limited to air temperatures less than 60 °F (15 °C).”

“(1) Brick, Concrete or HMA Bases. The base shall be cleaned of all dust, debris and any substance that will prevent the prime coat from adhering to the base. Cleaning shall be accomplished by sweeping and vacuuming or sweeping and air blasting methods, as approved by the Engineer. The base shall be free of standing water at the time of application. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface as specified in the following table.

Type of Surface to be Primed	Residual Asphalt Rate lb/sq ft (kg/sq m)
Milled HMA, Aged Non-Milled HMA, Milled Concrete, Non-Milled Concrete & Tined Concrete	0.05
Fog Coat between HMA Lifts, IL-4.75 & Brick	0.025

The bituminous material for the prime coat shall be placed one lane at a time. The primed lane shall remain closed until the prime coat is fully cured and does not pickup under traffic. When placing prime coat through an intersection where it is not possible to keep the lane closed, the prime coat may be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lb/sq yd (1 to 2 kg/sq m).

- (2) Aggregate Bases. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface of 0.25 lb/sq ft \pm 0.01 (1.21 kg/sq m \pm 0.05).

The prime coat shall be permitted to cure until the penetration has been approved by the Engineer, but at no time shall the curing period be less than 24 hours for MC-30 or four hours for PEP. Pools of prime occurring in the depressions shall be broomed or squeegeed over the surrounding surface the same day the prime coat is applied.

The base shall be primed 1/2 width at a time. The prime coat on the second half/width shall not be applied until the prime coat on the first half/width has cured so that it will not pick up under traffic.

The asphalt binder rate will be verified a minimum of once per application type consisting of at least 2000 tons of HMA according to the "Determination of Residual Asphalt in Prime and Tack Coat Materials" test procedure.

Prime coat shall be fully cured prior to placement of HMA to prevent pickup by haul trucks or paving equipment. If pickup occurs, paving shall cease in order to provide additional cure time.

Prime coat shall be placed no more than five days in advance of the placement of HMA. If after five days loss of prime coat is evident prior to covering with HMA, additional prime coat shall be placed as determined by the Engineer at no additional cost to the Department."

Revise the second paragraph of Article 406.13(b) of the Standard Specifications to read:

"Aggregate for covering prime coat will not be measured for payment."

Revise the first paragraph of Article 406.14 of the Standard Specifications to read:

"Prime Coat will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT), POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT) or NON-TRACKING BITUMINOUS MATERIALS (PRIME COAT)."

Revise Article 1032.02 of the Standard Specifications to read:

"1032.02 Measurement. Asphalt binders, emulsified asphalts, rapid curing liquid asphalt, medium curing liquid asphalts, slow curing liquid asphalts, asphalt fillers, and road oils will be measured by weight.

A weight ticket for each truck load shall be furnished to the inspector. The truck shall be weighed at a location approved by the Engineer. The ticket shall show the weight of the empty truck (the truck being weighed each time before it is loaded), the weight of the loaded truck, and the net weight of the bituminous material.

When emulsion is used, the proportions of emulsion and any water added to the emulsion shall be shown on the Bill of Lading.

Payment will not be made for bituminous materials in excess of 105 percent of the amount specified by the Engineer.”

Add the following to the table in article 1032.04 of the Standard Specifications:

“SS-1vh	160 - 180	70 – 80”
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Add the following to Article 1032.06 of the Standard Specifications:

“(g) Non Tracking Emulsified Asphalt SS-1vh:

Requirements for SS-1vh			
Test		SPEC	AASHTO Test Method
Saybolt Viscosity @ 25C,	SFS	20-200	T 72
Storage Stability, 24hr.,	%	1 max.	T 59
Residue by Evaporation,	%	50 min.	T 59
Sieve Test,	%	0.3 max.	T 59
Tests on Residue from Evaporation			
Penetration @25°C, 100g., 5 sec., dmm		20 max.	T 49
Softening Point,	°C	65 min.	T 53
Solubility,	%	97.5 min.	T 44
Orig. DSR @ 82°C,	kPa	1.00 min.	T 315”

Revise the last table of Article 1032.06 to read:

“Grade	Use
SS-1, SS-1h, CSS-1, CSS-1h, HFE-90, SS-1hP, CSS-1hP, SS-1vh	Prime or fog seal
PEP	Bituminous surface treatment prime
RS-2, HFE-90, HFE-150, HFE-300, CRSP, HFP, CRS-2, HFRS-2	Bituminous surface treatment
CSS-1h Latex Modified	Microsurfacing”

STRINGLESS CONSTRUCTION OPTION

(Effective March 15, 2012)

If the Contractor desires to perform construction using stringless operations, (s)he shall request authorization from the Engineer according to the last paragraph of Article 108.06 of the Standard Specifications. The Contractor shall submit the written request one week prior to beginning stringless operations.

Construction Requirements. Use of a stringless machine shall not relieve the Contractor of any responsibilities stated in the Recurring Special Provision Construction Layout Stakes Except for Bridges or Construction Layout Stakes.

Any Department or Contractor layout destroyed by the Contractor's operations shall be reestablished by the Contractor as directed by the Engineer.

The Contractor shall mark the projected path of the stringless paver with paint two days prior to the beginning of the paving operations.

When a system failure occurs during paving operations the following shall apply:

HMA – For HMA pavement, the Contractor will be allowed to lay material as described for a sudden rain event in Article 406.06(c) of the Standard Specifications after which operations shall stop until the system is proven to be in working order.

PCC – For PCC pavement, the Contractor shall immediately stop operations until the system is proven to be in working order.

PREPARATION OF BASE

(Effective February 8, 2010; Revised January 1, 2012)

Add the following to Article 406.05(a) of the Standard Specifications:

Fine particulate shall be removed from all milled pavement by sweeping, vacuuming, or another method approved by the Engineer and then by air blasting prior to the placement of prime coat.

Replace the eighth paragraph of Article 406.14 of the Standard Specifications with the following:

Preparation of base will not be paid for separately, but shall be included in the cost of the HMA pay items.

DRIVEWAY PAVEMENT REMOVAL

Description. This work shall consist of furnishing all labor, equipment and materials to remove driveway pavements at the locations shown in the plans, in accordance with the applicable portions of Section 440 of the Standard Specifications and as directed by the ENGINEER. The driveway pavement thicknesses are variable.

Method of Measurement. This work will be measured for payment by square yard.

Basis of Payment. This work will be paid for at the contract unit price per square yard for DRIVEWAY PAVEMENT REMOVAL.

REMOVAL OF EXISTING STRUCTURES

Description. This work shall consist of furnishing all labor, equipment and materials to remove and properly dispose of the existing structures described below and at the location shown on the plans in accordance with Section 501 of the Standard Specifications and as directed by the Engineer.

Existing Structure	Location	Description
No. 1	Sta. 6118+53 (Exist. S.N. 032-0089)	Single 91' span bridge consisting of a 7½" thick cast-in-place concrete deck on six (6) 54" PPCI beams. Both abutments are open pile bents. The bridge deck is 39'-2" out-to-out or 36'-0" clear between cast-in-place concrete Jersey shape parapets.
No. 2	Sta. 6185+48 (Exist. S.N. 032-0088)	Single 86' span bridge consisting of a 7½" thick cast-in-place composite concrete deck on 42" PPCI beams. Both abutments are open pile bents. The bridge deck is 39'-2" out-to-out or 36'-0" between cast-in-place concrete Jersey shape parapets
No. 3	Sta. 6039+06	Single barrel 4' x 3' precast concrete box culvert, 81' long.

No. 4	Sta. 6071+95	Single barrel 6' x 4' cast-in-place concrete box culvert, 71' long.
No. 5	Sta. 6098+24	Single barrel 6' x 4' precast concrete box culvert, 80' long.
No. 6	Sta. 6180+67	Single barrel 3' x 2' precast concrete box culvert, 115' long.
No. 7	Sta. 6210+35	Single barrel 2' x 3' precast concrete box culvert, 66' long
No. 8	Sta. 6222+85	Single barrel 2' x 3' precast concrete box culvert, 60' long
No. 9	Sta. 6247+95	Single barrel 10' x 4' cast-in-place concrete box culvert, 76' long.

Method of Measurement. This work will be measured for payment by each. Removal of box culverts includes removal of precast and cast-in-place headwalls. Removal of existing bridges includes removal of approach slabs.

Basis of Payment. This work will be paid for at the contract unit price each for REMOVAL OF EXISTING STRUCTURES at the location designated on the plans.

PIPE CULVERT REMOVAL

Description. This work shall consist of removing existing pipe culverts at locations shown in the plans and disposing of the pipe culverts outside the right-of-way in accordance with Section 501 of the Standard Specifications. The existing end sections associated with the pipe culverts shall be removed and disposed in conjunction with the pipe culverts.

Method of Measurement. Removal of existing pipe culverts will be measured for payment in place, in feet along the invert of the culvert. The measured length will not include the end section.

Basis of Payment. Removal of existing pipe culverts will be paid for at the contract unit price per foot for PIPE CULVERT REMOVAL. The removal of existing end sections will not be paid for separately, but shall be considered included in the cost of PIPE CULVERT REMOVAL.

STORM SEWER (WATER MAIN REQUIREMENTS)

(Effective July 1, 1990; Revised January 1, 2009)

This work shall consist of constructing storm sewers meeting water main requirements.

Storm Sewer (Water Main Requirements) shall be used at locations where lateral separation between the sewer and water main or water service line is less than 10 feet (3.1 m) and the water main invert is less than 18 inches (457 mm) above the storm sewer crown. Also, Storm Sewer (Water Main Requirements) shall be used where the sewer crosses above the water main or water service line with 18 inches (457 mm) minimum vertical separation.

The storm sewer shall be constructed of

Ductile iron pipe, Class 52 with bell and rubber gasket joint or

Concrete pressure pipe conforming to the latest AWWA Standard C300, C301, C303 or

Plastic pipe meeting the material requirements of Section 40. Pipe for Water Mains and Service Connections of the Standard Specifications for Water and Sewer Main Construction in Illinois and Section 550 of the Standard Specifications.

This work shall be done according to the applicable portions of Sections 550 and 561 of the Standard Specifications.

Method of Measurement. This work will be measured for payment according to Article 550.09 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for STORM SEWER (WATER MAIN REQUIREMENTS), of the diameter specified.

STORM SEWER REMOVAL

This work will be in accordance with section 551 of the Standard Specifications except removal and disposal of end sections and/or headwalls abutting or connecting to the storm sewer will not be paid for separately, but will be included in the cost of STORM REMOVAL, of the diameter specified.

WATERTIGHT DRAINAGE STRUCTURES

In addition to the requirements of Section 602 of the Standard Specifications inlets and manholes specified to be watertight shall be in accordance with the following:

The work shall be completed in accordance with the Standard Specifications for Water and Sewer Construction in Illinois, Illinois Department of Transportation Standard Specifications for Road and Bridge Construction (Roadway Specifications), current edition, and these Special Provisions. Where conflicting specifications are found, the Special Provisions shall be used.

References.

American Concrete Institute:

ACI 318-Building Code Requirements for Structural Concrete.

ACI 530-530.1-Building Code Requirements for Masonry Structures and Specifications for Masonry Structures.

ASTM International:

ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.

ASTM C478-Standard Specification for Precast Reinforced Concrete Manhole Section.

ASTM C497-Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.

ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.

ASTM C913-Standard Specification for Precast Concrete Water and Wastewater Structures.

ASTM C923-Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.

ASTM C1244-Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test.

ASTM F477-Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

Design Requirements – Manholes and Structures.

Design of Joints for Precast Components: In accordance with ASTM C913; maximum leakage of 0.025 gallons per hour per foot of joint at 3 feet of head.

Products.

MANHOLES AND STRUCTURES

- A. Manhole and Structure Sections: Reinforced precast concrete in accordance with ASTM C478 with gaskets in accordance with ASTM C443.
 - 1. Joints for Precast Manholes and Structures: In accordance with ASTM C913; maximum leakage of 0.025 gallons per hour per foot of joint at 3 feet of head.
 - 2. Joints shall be tongue-and-groove type.
 - 3. Foundation Slab: Precast concrete poured monolithically with manhole barrel section.
 - 4. Flat Top Slab: Provide as vertical depth requires. Shall have a two foot diameter opening.

ACCESSORIES

- A. Inlet and Manhole External Sealing Bands: In accordance with ASTM C877; Type II; plastic film and mesh reinforced bands.
- B. Inlet/Manhole, Pipe to Inlet/Manhole Connector: In accordance with ASTM C923; flexible, rubber compression type connectors; cast into the manhole section. Shall be as manufactured by A-Lok Products, or approved equal.
- C. Inlet/Manhole, Pipe to Inlet/Manhole Connector for, Field Created Openings or Dog House Style Manholes: Provide a rubber water stop grouting ring, as manufactured by Press-Seal Gasket Corp., or approved equal, steel clamping bands for attaching ring to pipe. Non-shrink grout shall be placed around the entire water stop in order to form a water tight seal around manhole opening.
- D. Inlet/Manhole and Structure Joint Sealants:
 - 1. Preformed Joint Sealants: In accordance with ASTM C990
 - 2. Elastomeric Joint Sealants: In accordance with ASTM C920

INLETS AND MANHOLES

Inlets and manholes shall be constructed in accordance with applicable portions of Article 602 of the Roadway Specifications, these Special Provisions and the details in the Plans. The bottom slabs of sanitary sewer manholes shall be cast monolithically with the first section of the manhole. Prior to fabrication of the manholes, the Contractor shall field verify the size, type, location, and elevations of all pipes that will enter or exit the inlet/manhole.

TESTING

Upon completion of work to construct new inlets/manholes, these inlets/manholes shall be tested per the requirements of the Standard Specifications for Water and Sewer Main Construction in Illinois, current edition. No additional compensation will be allowed for testing.

WATER MAIN

561.01 Description.

Article 561.01 is supplemented with the following:

References

ASTM International:

- A. ASTM A307 – Standard Specification for Carbon Steel Bolts and Studs, 60000 PSI Tensile Strength.
- B. ASTM D1557 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6000 ft-lbf/ft³ (2700 kN-m/m³)).
- C. ASTM D2922 – Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 – Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
- E. ASTM D3139 – Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
- F. ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

American Water Works Association:

- A. AWWA C104 – ANSI Standard for Cement Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
- B. AWWA C110 – ANSI Standard for Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (76 mm Through 1219 mm), for Water.
- C. AWWA C111 – ANSI Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
- D. AWWA C153 – ANSI Standard for Ductile-Iron Compact Fittings for Water Service.
- E. AWWA C605 – Underground Installation of Polyvinyl Chloride PVC Pressure Pipe and Fittings for Water.
- F. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe, and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Distribution.
- G. AWWA B300 – Hypochlorites.
- H. AWWA B301 – Liquid Chlorine.
- I. AWWA B302 – Ammonium Sulfate.
- J. AWWA B303 – Sodium Chlorite.
- K. AWWA C651 – Disinfecting Water Mains.

561.02 Materials.

Article 561.02 is supplemented with the following:

Plastic ribbon tape shall be bright colored, continuously printed; minimum 6 inches wide by 4 mil thick, manufactured for direct burial service and marked "CAUTION WATER MAIN BELOW".

Tracer wire shall be 12 gauge copper, metallurgically bonded to a steel core and covered with a minimum of 30 mil of HDPE as manufactured by Copperhead Industries or approved equal.

Water main pipe shall be PVC pipe in accordance with AWWA C900 and shall meet the following requirements:

- A. Pipe Class: Pressure Class 235, DR 18.
- B. Fittings: Ductile or cast iron, AWWA C110 or AWWA C153 compact fittings, mechanical joint, rated for 250 psi minimum.
- C. Bituminous coating, AWWA C110.
- D. Cement mortar lining, AWWA C104, single thickness.
- E. Joints:
 - 1. Push-on joints: ASTM D3139 and ASTM F477 PVC flexible elastomeric seals. Solvent-cement couplings shall not be used.
 - 2. Mechanical joints: AWWA C111.
 - 3. Restrained joints: Mega-Lug type glands as manufactured by EBAA Iron, Ford, or approved equal. All mechanical joint fittings shall have Mega-Lug restrained joints. All bolts, tee-bolts, and nuts shall be 304 stainless steel.
 - 4. Water main pipe joints within casing pipe: Certa-Lok restrained joint as manufactured by Certainteed or approved equal.

Water main quality casing pipe shall be PVC in accordance with AWWA C900/C905 or ASTM D2241 and shall meet the following requirements:

- A. Pipe Class: Pressure Class 165, DR 25 (AWWA); Pressure Class 160, SDR 26 (ASTM).
- B. Joints shall be push-on joints in accordance with ASTM D3139 and ASTM F477 PVC flexible elastomeric seals.

Gate valves shall meet the requirements of AWWA C509 and be resilient-wedge gate valves with non-rising stems. Gate valves shall open to the left. The inlet and outlet shall be mechanical joint meeting the requirements of AWWA C111. All nuts and bolts shall be stainless steel. Gate valves shall be manufactured by one of the following manufacturers or approved equal:

- A. American Flow Control, Series 2500.
- B. Clow Valve.
- C. Kennedy Valve.

Valve boxes shall be cast or ductile iron with a 5 1/4 inch inside diameter. Valve boxes shall be adjustable, two-piece, screw-type with a cast iron lid marked "WATER". Valve boxes shall be provided with a rubber leveling and centering gland to be placed into the bottom of the valve box. The gland shall fit over the bonnet of the valve to ensure the operating nut is centered in the valve box. Valve boxes shall be manufactured by Tyler Union, type 29U, or approved equal.

Valve bodies shall be marked with the manufacturer's name and pressure rating.

Tapping sleeve components shall meet the following requirements:

- A. Shells and lugs: Stainless steel per ASTM A240, Type 304 and Type 304L.
- B. Bolts: UNC rolled thread, stainless steel per ASTM A193, Type 304.
- C. Nuts: Heavy hex, stainless steel per ASTM A194, Type 304, coated to prevent galling.
- D. Washers: Stainless steel per ASTM A240, Type 304 and plastic lubricating washer.
- E. Gaskets: SBR per ASTM D2000 MAA 610, compounded for water and sewer service.
- F. MJ Bolts and nuts: UNC T-Bolts, heavy hex nuts, high strength low alloy steel per AWWA C111.
- G. Mechanical Joint Outlet: MJ style in accordance with AWWA Standard C-111. Cast from ductile (nodular) iron, meeting or exceeding ASTM A536, Grade 65-45-12.

Cast-in-place concrete for thrust restraints shall meet the requirements of Section 1020. Precast concrete blocks used for thrust restraints shall be of the type designed for burial service and for use as thrust restraint.

Steel rods, bolts, lugs, and brackets shall be carbon steel meeting the requirements of ASTM A36/A36M or ASTM A307.

Casing spacers shall be specifically designed for the carrier and casing pipe materials to be used. Casing spacer shell, risers, and hardware shall be 304 stainless steel. Shell thickness shall be a minimum of 14 gauge. Riser thickness shall be a minimum 10 gauge. Casing spacer shell shall be PVC lined. Casing spacer runners shall be ultra-high molecular weight polyethylene. Casing spacers shall be Cascade Waterworks Mfg., Model CCS, or approved equal.

Casing end seals shall be a pull-over type made from neoprene and shall be secured to the casing and carrier pipe with stainless steel bands. End seals shall be Cascade Waterworks Mfg., Style CCES, or approved equal.

A 6 ounce zinc anode cap shall be installed on each carbon steel bolt and each threaded rod. Zinc caps shall be manufactured by Trumbull Industries or approved equal.

Chemicals used in water main disinfection work shall meet the requirements of AWWA C651.

561.03 General.

Article 561.03 is supplemented with the following:

The Contractor shall verify all existing water main sizes, locations, and inverts are as shown on the Plans.

The Contractor shall verify field measurements prior to fabrication.

Valves shall be delivered and stored in shipping containers with labeling in place. Individual and stockpiled pipe lengths shall be blocked to prevent moving. Pipe and pipe materials shall not be placed on private property or in areas obstructing pedestrian or vehicle traffic. Polyethylene materials shall be stored out of sunlight.

Pipe shall be prepared for installation by cutting the pipe ends square, reaming the pipe and tube ends to the full pipe diameter, and removing burrs. Only equipment specifically designed for pipe cutting shall be used. The use of chisels and hand saws will not be allowed. Edges shall be ground smooth with a beveled end for push-on connections. Scale, dirt, and foreign material on the inside and outside of the pipe shall be removed before assembly.

Backfill terms shall be as defined in the "Standard Specifications for Water & Sewer Main Construction in Illinois". Foundation, Bedding, and Haunching shall be FA-6 fine aggregate in accordance with Section 1003. Aggregate for Foundation, Bedding, and Haunching shall be natural bank sand or sand produced via crushing and screening of oversized particles. Bedding material shall be compacted to 95 percent. Initial Backfill and Trench Backfill for water mains shall be CA-7 coarse aggregate in accordance with Section 1004. Aggregate for trench backfill shall be crushed, washed, angular limestone with 6% max deleterious material. "Pea gravel" and "Buckshot" will not be allowed. Final Backfill shall be excavated material with no rocks over 4 inches in diameter, no frozen earth, and no foreign (organic) material.

Pipe shall be installed with no high points. The Contractor shall notify the Engineer and install components to provide an air release if unforeseen field conditions arise which necessitate high points. Pipe shall be installed to allow for expansion and contraction without stressing the pipe or joints. Access fittings to permit pressure testing and disinfection shall be installed. Pipe shall be routed in a straight line. Pipe shall be installed to have bearing along the entire length of pipe. Bell holes shall be excavated to permit proper joint installation. Pipe shall not be laid in wet or frozen trenches. Pipe shall be installed to the required elevation within a tolerance of 5/8 inches. Pipe shall be installed in accordance with AWWA C605. Ductile iron piping and fittings shall be installed in accordance with AWWA C600.

When the Engineer determines there is insufficient space for the 10 feet of existing pipe between the tee and the plug shown in the Tie-In To Existing Water Main detail shown on the Plans, the plug shall be installed as far from the tee as possible or as directed by the Engineer.

Watertight plugs shall be installed in pipe openings during work stoppages.

Flanged joints shall not be used in underground installations except within structures.

The minimum cover over pipe shall be 4.5 feet.

Continuous plastic ribbon tape shall be installed over the top of buried pipe 18 inches above the top of the pipe.

Continuous tracer wire shall be installed over the top of buried pipe. Tracer wire shall be attached to the water main via tape or other adhesive. Splices in tracer wire shall be made using the manufacturer's approved connector. Tracer wires shall be terminated at valve boxes by attaching the tracer wire to the outside of the box with tape or other adhesive, drilling a hole in the box approximately 6 inches from the top, and routing tracer wire into the box through the hole. A minimum 18 inch coil shall be adhesively stuck to the inside of the valve box lid.

Water main quality casing pipe shall be sealed at both ends of the casing. Water main shall be installed inside casing pipe in accordance with the spacer manufacturer's recommendations. The maximum distance between spacers shall be 6 feet when casing spacers are installed on flexible pipes. The ends of casing pipes shall be sealed with rubber end seals.

Non-shrink grout or cement shall not be used to seal the ends of plastic carrier and casing pipes.

Valves shall be installed in accordance with the shop drawings and manufacturer's instructions. Valves shall be set on a minimum of 6 inches of concrete thrust restraint. Valve boxes shall be set plumb and provided with the operating nut centering device.

Concrete thrust blocks shall be installed for valves, tees, bends, caps, and plugs. Cast-in-place concrete thrust blocks shall be poured against undisturbed earth. Thrust blocks shall be installed at each elbow and change of pipe direction to resist the resultant force and so that pipe and fitting joints will be accessible for repair. At least 2 square feet of thrust restraint bearing on the subsoil shall be installed. Thrust blocks, tie rods, and joint restraint shall be installed at dead ends of water main. The use of Mega-Lug restraining glands does not alleviate the Contractor's responsibility to provide and install the required thrust blocking.

Shutdowns of the water distribution system shall begin no earlier than 8:00AM. The maximum duration of each shutdown shall be five hours unless otherwise approved in writing by the Engineer. Work shall be scheduled so that there are no shutdowns or boil orders in effect during hours when Saratoga School is in session.

The Contractor shall perform the pressure test on potable water distribution systems in accordance with AWWA C600 and Article 41-2.14 of the "Standard Specifications for Water & Sewer Main Construction in Illinois". The Contractor shall notify the Engineer at least two hours prior to performing pressure testing. Pressure tests shall not be performed without the Engineer present to witness the tests. The City of Morris Water Department will operate all existing valves required to complete the pressure testing. The Contractor shall notify the Water Department at least 24 hours prior to the pressure test. Pressure tests shall last for a duration of 24 hours at 100 psi and for four hours at 150 psi.

Disinfection

Disinfection work shall be performed in accordance with AWWA C651, the "Standard Specifications for Water & Sewer Main Construction in Illinois", and these special provisions. Tablets and other chlorine-bearing compounds shall not be used.

The piping system shall be cleaned, inspected, and pressure tested prior to beginning disinfection work. The Contractor shall perform scheduling for flushing, water pressure testing, disinfection, and bacteriological testing.

The Contractor shall provide and attach all equipment required to perform disinfection work. Permanent system devices removed for disinfection shall be reinstalled after disinfection is completed.

Gas chlorination shall be performed using gas-flow chlorinators and ejectors to provide a controlled high-concentration solution feed to the water to be chlorinated. Contractor personnel performing chlorination work shall be familiar with the physiological, chemical, and physical properties of liquid chlorine and shall be trained and equipped to handle any emergency that may arise. Safety practices shall be observed at all times to protect the public and those performing the work.

Disinfectant shall be maintained in the system for 24 hours.

The municipal water supply may be used for water main flushing. The Contractor shall request approval from the Water Department at least 72 hours prior to beginning flushing. The Contractor shall provide proper drainage to prevent flooding during flushing. The chlorinated water shall be legally disposed of when chlorinated discharge may cause damage to the environment. Neutralizing chemical shall be applied to chlorinated water to neutralize chlorine residual remaining in the water.

The sample taps shall be left open after flushing is completed to allow a small flow of water to continue. The Contractor shall schedule with the Water Department to witness the Contractor's collecting of water samples. The number of samples will be determined by the Water Department and the Engineer. One sample shall be taken from each location. If a sample from any location fails potability, two passing samples shall be taken from that location 24 hours apart. Samples taken by the Contractor shall be transferred to the Water Department to be taken to a testing laboratory to be analyzed at the Contractor's expense. Expense shall include the City cost to transport the samples. Rechlorination due to failing samples shall be scheduled at the direction of the Water Department.

All testing and sampling whips shall be removed to the corporation stop after disinfection and pressure testing has been completed. The corporation stop shall be shut and buried.

Valve boxes to be removed shall be removed along the entire height of the box from the ground line to the valve. Valves inside valve boxes to be removed shall be set to either the open or the closed position at the direction of the Engineer. The hole formed by the removal of the structure shall then be backfilled with sand and the sand compacted. All material resulting from removing valve boxes shall be disposed of by the Contractor according to Article 202.03.

Valve boxes to be removed and replaced shall be removed along the entire height of the box from the ground line to the valve. A new valve box shall then be installed in accordance with the Typical Valve Box Installation detail shown on the Plans.

The Contractor shall schedule with the Water Department to open valves and place the system in operation once all potability tests have been approved.

Notifications

The Contractor shall notify all water customers, the Fire Department, and the Engineer at least 24 hours in advance of each water main shut-down or boil order.

The Contractor shall notify the Fire Department of fire hydrants that will be taken out of service during construction. Fire hydrants that are not in service shall be marked, labeled, or covered in accordance with the Fire Department's standards.

The contact information for the Fire Department is:

Morris Fire Protection and Ambulance District
121 W. Main Street
Morris, IL 60450
(815) 942-2830

Submittals

The Contractor shall submit to the Engineer for approval the following submittals. Work shall not begin until approval has been granted.

- A. Shop drawings indicating piping layout, including piping specialties.
- B. Product data for pipe materials, pipe fittings, valves, and accessories.
- C. A manufacturer's certificate certifying that products meet or exceed the specified requirements.

The Contractor shall submit to the Engineer at least five working days prior to beginning disinfecting work the following submittals:

- A. A statement certifying that the Water Treatment Firm, a company specializing in disinfecting potable water systems specified in these special provisions, has at least 10 years of documented experience.
- B. The certification from the Illinois Environmental Protection Agency for the Testing Firm, a company specializing in testing and examining potable water systems.
- C. A copy of the bacteriologist's signature and authority associated with testing.

The Contractor shall submit to the Engineer for approval the product data for the procedures, chemicals, and treatment levels used for water main disinfection. Disinfection work shall not begin until approval has been granted.

The Contractor shall submit disinfection test results and indicate how the results compare to the specified requirements. Disinfection test results shall be submitted within five working days after completing the testing.

The Contractor shall submit the following disinfection submittals within five working days after disinfection and testing work is completed:

- A. A statement certifying that the cleanliness of the water distribution system meets or exceeds the specified requirements.
- B. A Disinfection Report including, but not limited to:
 - 1. Type and form of disinfectant used.
 - 2. Date and time of disinfectant injection start and time of completion.
 - 3. Test locations.
 - 4. Name of person collecting samples.
 - 5. Initial and 24 hour disinfectant residuals in treated water in ppm for each outlet tested.
 - 6. Date and time of flushing start and completion.
 - 7. Disinfectant residual after flushing in ppm for each outlet tested.
- C. A Bacteriological Report, including but not limited to:
 - 1. Date issued, project name, and testing laboratory name, address, and telephone number.
 - 2. Time and date of water sample collection.
 - 3. Name of person collecting samples.
 - 4. Test locations.
 - 5. Initial and 24 hour disinfectant residuals in ppm for each outlet tested.
 - 6. Coliform bacteria test results for each outlet tested.
 - 7. Certify water conforms, or fails to conform, to bacterial standards of the Illinois Environmental Protection Agency.
- D. A Water Quality Certificate certifying that the water conforms to the quality standards of the Illinois Environmental Protection Agency.

The Contractor shall submit to the Engineer, within five working days after all water main work is complete, working drawings showing the as-built locations of water mains, valves, connections, thrust restraints, curb stops, corporation stops, testing corporation stops, and invert elevations. The drawings shall also identify and describe unexpected variations in subsurface conditions and the discovery of uncharted utilities.

561.04 Method of Measurement.

The second sentence of the first paragraph of Article 561.04 is revised to read:

The length measured will include stops and fittings.

Article 561.04 is supplemented with the following:

Water main in casing will be measured in feet along the invert of the casing pipe. Water main in casing outside the minimum length of casing shown on the Plans or required in the specifications will not be measured for payment. The length of proposed water main between the end of the casing and the connection to the existing water main will not be measured for payment.

Trench backfill used for the length of proposed water main between the end of the casing and the connection to the existing water main will not be measured for payment.

Removal of water main pipe will not be measured for payment.

561.05 Basis of Payment.

Article 561.05 is supplemented with the following:

This work will be paid for at the contract unit price per foot for WATER MAIN IN CASING, of the diameter specified. The specified diameter is that of the carrier pipe.

Water valves will be paid for at the contract unit price per each for WATER VALVES, for the pipe diameter specified. The price shall include all costs for both the valve box and the valve.

Valve boxes to be removed will be paid for at the contract unit price per each for VALVE BOXES TO BE REMOVED.

Valve boxes to be removed and replaced will be paid for at the contract unit price per each for VALVE BOXES TO BE REMOVED AND REPLACED.

WATER SERVICE LINE

562.01 Description.

Article 562.01 is supplemented with the following:

References

American Society of Mechanical Engineers:

- A. ASME B16.18 – Cast Copper Alloy Solder Joint Pressure Fittings.
- B. ASME B16.22 – Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

ASTM International:

- A. ASTM B62 – Standard Specification for Composition Bronze or Ounce Metal Castings.
- B. ASTM B88 – Standard Specification for Seamless Copper Water Tube.
- C. ASTM D1557 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6000 ft-lbf/ft³ (2700 kN-m/m³)).
- D. ASTM D2922 – Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- E. ASTM D3017 – Standard test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
- F. ASTM D2239 – Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter.

American Welding Society: AWS A5.8 – Specification for Filler Metals for Brazing and Braze Welding.

American Water Works Association:

- A. AWWA C800 – Underground Service Line Valves and Fittings.
- B. AWWA C901 – Standard for Polyethylene (PE) Pressure Pipe and Tubing, 1/2 in. through 3 in. for Water Service.

562.02 Materials.

Article 562.02 is supplemented with the following:

Water service lines shall be CTS Polyethylene, SDR 9, PE-3408 HDPE, ASTM D2239, AWWA C901 with compression connection joints.

All fittings and valves for corporation stops shall be manufactured in accordance with AWWA C800 and these special provisions. Any brass part of a fitting or valve in contact with potable water shall be made of a “No-Lead Brass,” defined as UNS Copper Alloy No. C89520 or C89833 in accordance with the chemical and mechanical requirements of ASTM B584 and AWWA C800. This “No-Lead Brass” alloy shall not contain more than nine one hundredths of one percent (0.09%) total lead content by weight. Any brass part of a fitting or valve not in contact with potable water shall be made of 85-5-5-5 brass, defined as UNS Copper Alloy C83600 per ASTM B62, ASTM B584, and AWWA C800. All brass fittings and valves shall be certified by an ANSI accredited independent testing laboratory per ANSI/NSF Standard 61, Drinking Water Components – Health Effects, Section 8. The lead content of the wetted components in contact with potable water shall also be verified by an ANSI accredited independent testing laboratory. Brass fittings and valves shall comply with the United States of America Safe Drinking Water Act, and the U.S. Environmental Protection Agency. All brass fittings and valves shall have the manufacturer’s name or trademark permanently stamped or cast on it. Another marking identifying the “no lead” brass alloy, e.g., ‘NL’, shall be cast or permanently stamped on the fitting or valve. The inlet end of corporation stops shall be threaded for tabbing in accordance with AWWA requirements. The outlet end compression connection shall be suitable for CTS tubing. Corporation stops shall be full port and shall have a stainless steel insert stiffener. The compression nut shall have a tracer wire hole. Corporation stops shall be manufactured by A.Y. McDonald MFG., Series 4701BDBQ.

Service saddles shall meet or exceed ASTM A536 Grade 65-45-12, ANSI/AWWA C800. The casing shall have a fusion bonded nylon coating. Each service saddle shall have two stainless steel straps. Service saddles shall be manufactured by ROMAC, Style 202NS.

Curb boxes and covers shall meet or exceed AWWA C800-01. Boxes shall be screw type buffalo box with Minneapolis pattern, 1 1/2” upper section with 2” M.I.P. x 1 1/2” F.L.P. brushing. Plugs shall be 1 1/2” pentagon plugs and shall have a means of attaching tracer wire. Lids shall have the word “Water” cast in. Curb boxes and covers shall be manufactured by Ford Meter Box Company.

All fittings and valves for curb stops shall be in accordance with the requirements for fittings and valves for corporation stops. Curb stops shall have ball type valves and shall be positive pressure sealing. The inlet end of curb stops shall be compression type and the outlet end connection shall be suitable for CTS tubing. Curb stops shall be quarter-turn, full port, with stainless steel insert stiffeners. The compression nut shall have a tracer wire hole. Curb stops shall be manufactured by A.Y. McDonald Mfg., Series 6004Q-Minneapolis pattern.

Water service line valves installed within valve vaults shall be in accordance with the requirements for valves for curb stops.

Plastic ribbon tape shall be in accordance with Article 561.02.

Tracer wire shall be in accordance with Article 561.02.

Concrete for thrust restraints shall be in accordance with Article 561.02.

Domestic water meters shall be purchased by the Contractor from the City of Morris Water Department.

562.03 General.

Article 562.03 is supplemented with the following:

Work shall be performed in accordance with the "Standard Specifications for Water & Sewer Main Construction in Illinois" and these special provisions.

The Contractor shall verify all existing water service line sizes, locations, and inverts are as shown on the Plans.

All water service lines shall be 1 inch inside diameter unless shown otherwise on the Plans.

The Contractor shall exercise care during loading, transporting, and unloading of materials and products to prevent any damage. Products and materials shall be stored off ground and under protective coverings and custody, away from walls, and in a manner to keep these items clean and in good condition until used.

Pipe shall be prepared for installation by cutting the pipe ends square, reaming the pipe and tube ends to the full pipe diameter, and removing burrs. Only equipment specifically designed for pipe cutting shall be used. The use of chisels and hand saws will not be allowed. Edges shall be ground smooth with a beveled end for push-on connections. Scale, dirt, and foreign material on the inside and outside of the pipe shall be removed before assembly. Pipe connections to equipment shall be prepared with flanges or unions.

Pipe shall be installed to the required elevation to within a tolerance of 5/8 inches.

Foundation, Bedding, Haunching, Initial Backfill, Trench Backfill, and Final Backfill for water service lines shall be installed in accordance with Article 561.03.

Corporation stop assembly connections shall be made for each different kind of water main using suitable materials, equipment, and methods approved by the Engineer. Service clamps shall be provided for mains other than cast iron or ductile iron mains 8 inches and larger. Corporation stops shall be screwed directly into tapped and threaded iron mains at the 10 o'clock and 2 o'clock positions on the main's circumference. Corporation stops shall be located at least 12 inches apart longitudinally and staggered. Full support for service clamps shall be provided for plastic pipe water mains for the full circumference of the pipe, with at least 2 inches width of bearing area. The Contractor shall exercise care against crushing or causing other damage to water mains at the time of tapping and installing service clamps and corporation stops. Proper seals or other devices shall be used so that no leaks are left in water mains at points of tapping. Service connections shall not be backfilled or covered until approved by the Engineer.

Pipe shall be installed to allow for expansion and contraction without stressing the pipe or joints. Access fittings to permit pressure testing and disinfection shall be installed. Pipe shall be routed in a straight line.

Curb stop assemblies shall be set on a precast concrete thrust block. Curb boxes shall be installed centered and plumb over curb stops. Box covers shall be set flush with the finished grade.

Watertight plugs shall be installed in pipe openings during work stoppages.

The minimum cover shall be in accordance with Article 561.03.

Thrust restraints shall be installed in accordance with Article 561.03.

Continuous plastic ribbon and tracer wire shall be installed on water service lines in accordance with Article 561.03.

Shutdowns of the water distribution system and notifications of shutdowns shall be performed in accordance with Article 561.03.

Pressure testing and notifications of pressure testing shall be performed on water service lines in accordance with Article 561.03.

Water service lines shall be disinfected in accordance with Article 561.03.

Water meters shall be installed inside valve vaults in accordance with the meter manufacturer's recommendations and the City of Morris Water Department requirements.

The Contractor shall make submittals to the Engineer for water service lines in accordance with of Article 561.03. Product data shall be submitted for pipe materials, pipe fittings, corporation stop assemblies, curb stop assemblies, service saddles, and accessories. The Contractor shall submit independent testing laboratory certifications to the Engineer prior to beginning water service line work. The Contractor shall also submit to the Engineer for approval working drawings showing the proposed layout of water service lines and valves installed within valve vaults.

562.05 Basis of Payment.

Article 562.05 is supplemented with the following:

Curb stops will be paid for as domestic water service boxes in accordance with Article 565.04.

MOVING FIRE HYDRANTS

564.02 Materials.

Article 564.02 is supplemented with the following:

Materials for adjusting fire hydrants shall be in accordance with the hydrant manufacturer's recommendations.

564.03 General.

Article 564.03 is supplemented with the following:

Fire hydrants to be moved shall be installed in accordance with the Typical Hydrant Installation detail shown on the Plans.

Fire hydrants to be adjusted in their existing location shall be adjusted relative to the finished grade in accordance with the Typical Hydrant Installation detail shown on the Plans. Adjustment methods shall be in accordance with the hydrant manufacturer's recommendations.

All hydrant branches shall be anchored using one of the following methods:

- A. Installing two stainless steel all-thread rods and "duck lugs" attached to the tee, control valve, and hydrant. All-thread rod shall create a continuous connection from tee to hydrant. These shall be provided in addition to the required Mega-Lug glands.
- B. Installing fully restrained anchor glands with pre-fabricated restrained sleeves connecting the tee to the control valve and the control valve to the hydrant.

Submittals

The Contractor shall submit to the Engineer for approval the following submittals. Fire hydrant work shall not begin until after approval is granted.

- A. Product data for materials used in moving fire hydrants and materials used in adjusting fire hydrants.
- B. Adjustment methods for hydrant adjustments.

564.04 Basis of Payment.

Article 564.04 is revised to read:

This work will be paid for at the contract unit price per each for FIRE HYDRANTS TO BE MOVED or FIRE HYDRANTS TO BE ADJUSTED.

MOVING DOMESTIC METER VAULTS AND WATER SERVICE BOXES

565.03 General.

Article 565.03 is supplemented with the following:

Domestic water service boxes to be removed shall be removed along the entire height of the box from the ground line to the coupling. Valves inside domestic water service boxes to be removed shall be set to the closed position. The hole formed by the removal of the structure shall then be backfilled with sand and the sand compacted. All material resulting from removing domestic water service boxes shall be disposed of by the Contractor according to Article 202.03.

Domestic meter vaults to be removed shall be removed in accordance with the requirements of Section 605.

565.04 Basis of Payment.

Article 565.04 is supplemented with the following:

Domestic water service boxes to be removed will be paid at the contract unit price per each for DOMESTIC WATER SERVICE BOXES TO BE REMOVED.

Domestic meter vaults to be removed will be paid at the contract unit price per each for DOMESTIC METER VAULTS TO BE REMOVED.

Domestic water service boxes will be paid at the contract unit price per each for DOMESTIC WATER SERVICE BOXES.

VALVE BOXES TO BE ADJUSTED

602.01 Description.

Article 602.01 is supplemented with the following:

This work also consists of adjusting valve boxes.

602.02 Materials.

Article 602.02 is supplemented with the following:

Materials for adjusting valve boxes shall be in accordance with the valve box manufacturer's recommendations.

602.03 Classification.

Article 602.03 is supplemented with the following:

All valve box adjustments to grade shall be classified as Adjustment regardless of the height adjustment required to bring the valve box to grade.

CONSTRUCTION REQUIREMENTS

Valve boxes shall be adjusted in accordance with the manufacturer's recommendations. The Contractor shall submit to the Engineer for approval product data for materials used in valve box adjustments and the installation methods used to adjust valve boxes to grade. Valve box adjustment work shall not begin until after approval is granted.

602.16 Basis of Payment

Article 602.16 is supplemented with the following:

Valve box adjustments will be paid for at the contract unit price per each for VALVE BOXES TO BE ADJUSTED.

TREATMENT OF EXISTING FIELD TILE SYSTEMS:

Description. This work shall be in accordance with Section 611 of the Standard Specifications.

The following items have been included in the plans in order to establish unit bid prices. The Engineer shall be the sole judge as to the quantity and location for the use of:

PIPE DRAINS, 6", 8", 10", 12", 15" & 18"
STORM SEWER PROTECTED, CLASS A, , 6", 8", 10", 12", 15" & 18"
STORM SEWER (SPECIAL), 6", 8", 10", 12", 15" & 18"
MISCELLANEOUS CONCRETE
FIELD TILE JUNCTION VAULT, 2' DIA.
FIELD TILE JUNCTION VAULT, 3' DIA.

PERMANENT SURVEY MARKERS, TYPE I

(Effective July 1, 1990; Revised January 1, 2007)

Survey markers shall be installed according to Highway Standard 667101, except that the tablet shall be bronze instead of aluminum.

When a survey marker is used to reference a land survey point, the lettering referring to the State of Illinois and the Division of Highways shall be omitted and the marker shall be marked as directed by the Engineer.

PRESERVING PROPERTY MARKERS

The Contractor shall protect the existing property corner markers. Any such monuments disturbed or destroyed by the Contractor's operations shall be replaced by a Professional Land Surveyor at the Contractor's expense.

COMPUTER CABINET

(Effective April 1, 1996; Revised March 12, 2009)

In addition to the required equipment cabinet, the Contractor shall provide a computer cabinet for the Engineer's field office. The computer cabinet shall meet the requirements of the equipment cabinet as specified in Article 670.02(f) or as approved by the Engineer.

The computer cabinet will not be paid for separately but shall be included in the cost of the ENGINEER'S FIELD OFFICE, TYPE A.

UNPUBLISHED TELEPHONE NUMBERS FOR ENGINEER'S FIELD OFFICE

(Effective March 21, 2002; Revised January 1, 2012)

Add the following sentence to the end of Paragraphs 670.02(i)(2) and 670.04(f)(2):

All of the telephone lines provided shall have unpublished numbers.

CELLULAR PHONES

(Effective March 1, 2007; Revised January 1, 2012)

Add the following to Article 670.02 of the Standard Specifications:

- (s) Three (3) cellular phones for the exclusive use of the Engineer.

Each cellular phone shall be compatible with the current Department cellular phone network and shall have the following:

- A minimum of 500 anytime minutes per month,
- Free unlimited mobile to mobile minutes,
- Free incoming calls,
- Free Nationwide long distance,
- No roaming charges for calls within the continental United States,
- Free walkie-talkie minutes,
- Free off-network walkie-talkie service,
- Voice Mail, and
- Speaker Phone

SHOULDER STABILIZATION AT GUARDRAIL

(Effective February 7, 2013)

Replace the last sentence of the second, third and fourth paragraphs of Article 630.06 with the following:

The void around each post shall be backfilled with earth or aggregate and capped with 3 inches (75 mm) of grout.

PAVEMENT MARKING REMOVAL/WORK ZONE PAVEMENT MARKING REMOVAL

(Effective August 15, 2005; Revised January 1, 2009)

All permanent and work zone pavement markings shall be removed according to Article 1101.12 Water Blaster with Vacuum Recovery and the applicable portions of Sections 703 and 783 of the Standard Specifications and as described herein. Pavement marking tape type III may be peeled or burned off, however, all remnants or burn marks shall be hydro-blasted.

Add the following paragraph to Article 1101.12 of the Standard Specifications.

For the high pressure water spray, the pressure at the nozzle shall be approximately 25,000 psi (172,000 kPa) with maximum flow rate of 15 gal/min (56 L/min). The nozzle shall be in close proximity to the pavement surface.

PERMANENT ROADWAY LIGHTING LUMINAIRE PERFORMANCE TABLE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 LUMINAIRE PERFORMANCE TABLE (IL. Rte. 47)

GIVEN CONDITIONS

ROADWAY DATA:	Pavement Width	24 FT
	Number of Lanes	2
	Median Width	32 FT
	IES Surface Classification	R3
	Q-Zero Value	.07
LIGHT POLE DATA:	Mounting Height	50 FT
	Mast Arm Length	12 FT
	Pole Set-Back From Edge of Pavement	15 FT
LUMINAIRE DATA:	Lamp Type	HPS
	Lamp Lumens	50000
	IES Vertical Distribution	Medium
	IES Control of Distribution	Cutoff
	IES Lateral Distribution	Type III
	Total Light Loss Factor	0.684
LAYOUT DATA:	Spacing	250 FT
	Configuration	Opposite
	Luminaire Overhang Over Edge Of Pavement Lane	-3 FT

NOTE: Variations from the above specified IES 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.

ILLUMINATION:	Average Horizontal Illumination, (E_{AVE})	9.0 Lux
	Uniformity Ratio, (E_{AVE}/E_{MIN})	3.0
LUMINANCE:	Average Luminance: (L_{AVE})	0.6 Cd/m ²
	Uniformity Ratios (L_{AVE}/L_{MIN})	3.5
	(L_{MAX}/L_{MIN})	6.0
	Maximum Veiling Luminance Ratio: (L_V/L_{AVE})	<u>0.3</u>

SIGNAL EQUIPMENT COMPATIBILITY

The traffic signal equipment furnished for this contract shall be Eagle brand. The controllers furnished shall be the most current Eagle brand.

UNINTERRUPTIBLE POWER SUPPLY, EXTENDED

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 provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

The UPS shall be provided with a minimum three (3) year warranty.

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 Three Emergency Vehicle Priority System specification at no additional cost to the contract.

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 UNINTERRUPTABLE POWER SUPPLY, EXTENDED. Replacement of Emergency Vehicle Priority System confirmation beacons shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, EXTENDED item.

TEMPORARY TRAFFIC SIGNAL TIMING

Description:

This work shall consist of developing and maintaining appropriate traffic signal timings for the following intersections for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions:

- IL Route 47 at Prologis Parkway

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.

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.

Basis of Payment:

The work shall be paid for at the contract unit price per Each for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection location. When the temporary traffic signal installation is turned on, 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.

SERVICE INSTALLATION, OF THE TYPE SPECIFIED

(Effective July 1, 1990; Revised January 1, 2007)

In addition to the requirements of Section 805 of the Standard Specifications, this item shall require the Contractor to contact the utility company, prior to beginning work, to determine the utility company regulations relating to electrical service. The Contractor shall provide the utility company an estimated date that the service connection will be required, the agency which will be responsible for monthly service charges, and the connected load for flat rate billing if required. The responsible agency and connected load information is included in the plans. The customer service agreement with the utility company shall be executed by the agency responsible for monthly service charges.

All information furnished to the utility company shall be in writing with a copy provided to the Engineer.

During the interim between the service activation date and signal turn on day, all energy charges for the intersection shall be paid by the Contractor according to Article 109.05 of the Standard Specifications. Beginning the day of the traffic signal turn on, all energy charges for the intersection will be paid by the responsible agency listed in the plans. The Contractor is responsible for making arrangements with the responsible agency to transfer billing to the responsible agency.

This work shall be included in the cost of the SERVICE INSTALLATION, of the type specified.

INDUCTIVE LOOP DETECTOR

(Effective January 1, 2002; Revised January 1, 2012)

Inductive loop detectors shall meet the requirements of Sections 885 and 1079 of the Standard Specifications with the following modifications:

Each inductive loop detector amplifier shall be rack mounted. Each inductive loop detector amplifier channel shall have a minimum of:

- 8 sensitivity settings
- LCD program menu
- Detector logs and displays number of loop failure incidents since last reset
- Internal function to determine the ideal sensitivity setting for every loop system
- 8 frequency settings
- 32 second call extend timer
- 32 second delay timer
- Call extend and delay timers able to operate cooperatively
- LED indication for detection

The detector supplied shall be the latest Reno model or equivalent.

The Contractor shall label each amplifier for the loop and movement where they provide input according to the chart in the plans.

Basis of Payment:

This item will be paid for according to Article 885.04 of the Standard Specifications.

UNDERGROUND CONDUIT

(Effective April 1, 2003; Revised January 1, 2012)

Add the following requirements to Section 810 of the Standard Specifications:

Materials:

Conduit placed under pavement, stabilized shoulder, paved median, paved driveway, curb, gutter, curb and gutter, or sidewalk shall meet the requirements of Article 810.02(a) or Article 810.02(b). In addition, rigid nonmetallic conduit shall be Schedule 80.

Construction Requirements:

The tunnel created by the auger shall not be significantly larger than the conduit to prevent undue settling. No tunnel shall be left for more than two hours without conduit filling it.

FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL

(Effective January 1, 2002; Revised January 1, 2007)

Full Actuated Controller and Type IV Cabinet shall meet the requirements of Sections 857, 1073 and 1074 of the Standard Specifications with the following modifications.

This item requires that a factory representative capable of ensuring that the controller and cabinet are operating to the satisfaction of the Engineer shall be present at the turn on of the controller and shall remain until the intersection is operating to the satisfaction of the Engineer. Should a defect appear in the controller or cabinet operation, the representative shall return as often as necessary until all defects are repaired.

At the preconstruction meeting, the Contractor shall provide the names and phone numbers of two technicians who would be able to respond to controller malfunctions that occur within the 30 day acceptance period after the controller is turned on. If neither person can be reached at the time of the malfunction nor be at the location within 2 hours of receiving the call, any available electrician capable of evaluating and correcting the malfunction may be called at the State's discretion. Any and all bills resulting from defective operation of the controller or cabinet shall be the responsibility of the Contractor.

CONTROLLER:

The controller shall be capable of uploading and downloading its database to a laptop computer that has been installed with the proper software. All uploaded data shall be able to be changed within the laptop and then downloaded to the controller. The necessary cables for upload/download shall be provided and upload/download software shall be provided and installed onto the District Three laptop computer if the software and cables have not already been supplied to District Three or the software presently being used by District Three requires updating.

The controller data entry fields shall have a clear distinction between data fields and information. Data fields shall be in matrix format with a minimum of eight phases wide and four data lines deep.

The active status screen shall display the following information for all operating phases in an alpha-numeric display.

A clear distinction between the following detection's for each phase: vehicle recall, vehicle detection, pedestrian recall, and pedestrian detection.

A clear distinction among the phases receiving detection.

Status displayed simultaneously whenever one or more of the following is operating: vehicle passage timer, maximum phase timer, added initial timer, time before reduction timer, time to reduce timer, existing gap timer, walk timer, don't walk timer.

When a phase ends, the controller shall report whether the exit was a max out, gap out or force out condition. The controller shall show the yellow and red timers timing and any trailing overlap timers timing.

The color of all operating overlaps.

The phase of the controller shall be as shown in the plans.

CONTROLLER CABINET:

The police door compartment shall contain a manual control cord from which the signals may be operated manually. The inside door toggle switches shall be protected from accidental contact by vertical metal slats. The slats shall extend beyond the switches, in a manner similar to the terminals on the back panel. A plastic plans holder shall be installed on the cabinet door. The holder shall be at least 11 inches high and 17 inches wide, shall open from the side, and shall not interfere with the filter. The holder shall have a means of closing the side opening to prevent water from entering.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power panel. The cover shall completely shield the service wires, and circuit breaker wires from accidental contact.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power terminals for the thermostatically controlled exhaust fan. The thermostat shall be of the knob type capable of adjustment by hand and without tools. The thermostat and terminals shall be mounted on the left or right side of the controller cabinet.

All harness wiring of connectors A, B, C and D shall be factory installed so that an additional phase may be added to the existing phasing by the addition of a load switch and the proper conflict monitor card pinning.

A self-adhering phasing diagram shall be placed on the inside of the cabinet door.

Three 0.4 meter (15 inch) Velcro straps shall be fastened to the front of each cabinet shelf to secure the detector amplifier cables.

Traffic signal controller and the cabinet assembly shall be fully tested by the equipment supplier. Five (5) copies of the complete cabinet wiring showing all connections shall be furnished to the Engineer.

Basis of Payment:

This work will be paid for at the contract unit price per each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL.

FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL

(Effective: January 1, 2002; Revised: January 1, 2007)

Full Actuated Controller and Type V Cabinet shall meet the requirements of Sections 857, 1073 and 1074 of the Standard Specifications with the following modifications.

This item requires that a factory representative capable of ensuring that the controller and cabinet are operating to the satisfaction of the Engineer shall be present at the turn on of the controller and shall remain until the intersection is operating to the satisfaction of the Engineer. Should a defect appear in the controller or cabinet operation, the representative shall return as often as necessary until all defects are repaired.

At the preconstruction meeting, the Contractor shall provide the names and phone numbers of two technicians who would be able to respond to controller malfunctions that occur within the 30 day acceptance period after the controller is turned on. If neither person can be reached at the time of the malfunction nor be at the location within 2 hours of receiving the call, any available electrician capable of evaluating and correcting the malfunction may be called at the State's discretion. Any and all bills resulting from defective operation of the controller or cabinet shall be the responsibility of the Contractor.

CONTROLLER:

The controller shall be capable of uploading and downloading its database to a laptop computer that has been installed with the proper software. All uploaded data shall be able to be changed within the laptop and then downloaded to the controller. The necessary cables for upload/download shall be provided and upload/download software shall be provided and installed onto the District Three laptop computer if the software and cables have not already been supplied to District Three or the software presently being used by District Three requires updating.

The controller data entry fields shall have a clear distinction between data fields and information. Data fields shall be in matrix format with a minimum of eight phases wide and four data lines deep.

The active status screen shall display the following information for all operating phases in an alpha-numeric display.

A clear distinction between the following detection's for each phase: vehicle recall, vehicle detection, pedestrian recall, and pedestrian detection.

A clear distinction among the phases receiving detection.

Status displayed simultaneously whenever one or more of the following is operating: vehicle passage timer, maximum phase timer, added initial timer, time before reduction timer, time to reduce timer, existing gap timer, walk timer, don't walk timer.

When a phase ends, the controller shall report whether the exit was a max out, gap out or force out condition. The controller shall show the yellow and red timers timing and any trailing overlap timers timing.

The color of all operating overlaps.

The phase of the controller shall be as shown in the plans.

CONTROLLER CABINET:

The cabinet minimum size shall be of 44"x26"x60" (LxBxH) and shall provide a third shelf for mounting additional equipment.

The police door compartment shall contain a manual control cord from which the signals may be operated manually. The inside door toggle switches shall be protected from accidental contact by vertical metal slats. The slats shall extend beyond the switches, in a manner similar to the terminals on the back panel. A plastic plans holder shall be installed on the cabinet door.

The holder shall be at least 11 inches high and 17 inches wide, shall open from the side, and shall not interfere with the filter. The holder shall have a means of closing the side opening to prevent water from entering.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power panel. The cover shall completely shield the service wires, and circuit breaker wires from accidental contact.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power terminals for the thermostatically controlled exhaust fan. The thermostat shall be of the knob type capable of adjustment by hand and without tools. The thermostat and terminals shall be mounted on the left or right side of the controller cabinet.

All harness wiring of connectors A, B, C and D shall be factory installed so that an additional phase may be added to the existing phasing by the addition of a load switch and the proper conflict monitor card pinning.

A self adhering phasing diagram shall be placed on the inside of the cabinet door.
Three 0.4 meter (15 inch) Velcro straps shall be fastened to the front of each cabinet shelf to secure the detector amplifier cables.

Traffic signal controller and the cabinet assembly shall be fully tested by the equipment supplier. Five (5) copies of the complete cabinet wiring showing all connections shall be furnished to the Engineer.

Basis of Payment:

This work will be paid for at the contract unit price per each for FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL.

MASTER CONTROLLER

This work shall include furnishing and installing a Master Controller at the location as specified in the plans in accordance to Section 860 and as listed below.

In addition to the controller requirements, the following shall apply:

A new laptop computer with the following specifications shall be provided:

- Intel Core Duo or approved equal (Minimum 2.33 GHz)
- 17-inch Ultra Bright UXGA Display
- Tripp Lite Isotel 6 Ultra Surge Protector
- Microsoft Windows 7 or newer Operating System
- Documentation
- The required cables and software's compatible with proposed controllers and master software shall be installed and tested before acceptance of the computer.
- Battery Charger
- CD/DVD Burner
- Built-in 9-Pin Serial Port
- Extended Warranty

The Contractor shall supply three (3) copies of the most recent TATICS MARC Software, as well as three (3) manuals and up to three (3) days of training by a factory representative on the software shall be provided for up to fifteen (15) people. One (1) of the three (3) days shall include hands on trouble shooting on the traffic signal controller cabinet. A five (5) year software maintenance and update agreement shall also be included.

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 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 laptop shall be delivered to the City of Morris and notify the traffic signal section at (815) 434-8505 for the latest computer specifications.

The approved manufacturer of equipment shall loan the District Three 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 Three staff Traffic Signal Engineer at (815) 434-8505 and City of Morris. 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 City of Morris to request a phone line installation.

A follow-up fax transmittal to the City of Morris 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 (815) 434-8505. 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 City of Morris 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 Three Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

TRAINING

Within sixty (60) days, but not before thirty (30) days after the signal system is fully operational and accepted by the Engineer, the Contractor shall provide training for up to fifteen (15) People, City and County personnel for a minimum of four days. The training shall consist of detailed instructions on the operation and programming of the intersection controllers, master controller, video detection system and fiber optic cable. The instructors shall be qualified personnel and approved by the respective manufacturers. One set of manuals shall be furnished to each class participant. This is in addition to the documentation normally provided on this contract. It will be the responsibility of the contractor to provide the training site. Three follow-up days will also be required within two years for video camera adjustments.

CONCRETE HANDHOLE OR CONCRETE DOUBLE HANDHOLE

(Effective December 1, 1999; Revised January 1, 2007)

Concrete Handhole and Concrete Double Handhole shall meet the requirements of Sections 814 and 1088 of the Standard Specifications with the following modifications:

The lift ring for the cover shall consist of a solid closed ring of stainless steel at least 0.375 inch (10 mm) in diameter. The lift ring shall be attached to the cover by a loop of stainless steel at least 0.375 inch (10 mm) in diameter. The lift ring and loop shall be recessed in the cover.

DRILLED SHAFT FOUNDATIONS

(Effective April 1, 2008)

For light pole (Section 836) and traffic signal (Section 878) drilled shaft foundations, Class SI concrete may be used in lieu of the Class DS concrete specified in Article 1020.04 of the Standard Specifications. If Class SI concrete is used, the entire length of the drilled shaft shall be vibrated.

OPTIMIZE TRAFFIC SIGNAL SYSTEM

Description:

This work shall consist of optimizing a closed loop traffic signal system. The following intersections shall be optimized in the system:

1. Illinois 47 & Granville Rd.
2. Illinois 47 & Prologis Pkwy.

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 Three of the Illinois Department of Transportation. The Consultant shall also calculate and implement the proper red, yellow and pedestrian clearance time. The requirements for the vehicle clearance times shall be obtained from District Three traffic signal section. The Consultant should have six (6) seconds minimum left turn time, eight (8) seconds minimum side road time and ten (10) seconds minimum main road time. The Consultant shall zero out all density times. The Consultant shall also calculate the advance loop time. The Contractor shall contact the Traffic Signal Engineer 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 3 SCAT Guidelines, except as note herein. Any questions, the Consultant may contact Dan Devine at (815) 434-8505.

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 Three 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 mid-day 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 Three.
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>Cove Page in color showing a System Map</p> <p>Figures</p> <ol style="list-style-type: none"> 1. System overview map – showing system number, system schematic map with numbered system detector, over saturated movements, master location, system phone number, cycle lengths, and date of completion. 2. General location map in color – showing signal system location in the metropolitan area. 3. Detail system location map in color – showing cross street names and local controller addresses. 4. Controller sequence – showing controller phase sequence diagrams.
<p>Table of Contents</p> <p>Tab 1 : Final Report</p> <ol style="list-style-type: none"> 1. Project Overview 2. System and Location Description (Project specific) 3. Methodology 4. Data Collection 5. Data Analysis and Timing Plan Development 6. Implementation <ol style="list-style-type: none"> a. Traffic Responsive Programming (Table of TRP vs. TOD Operation) 7. Evaluation <ol style="list-style-type: none"> a. Speed and Delay runs
<p>Tab 2: Turning Movement Counts</p> <ol style="list-style-type: none"> 1. Turning Movement Counts (Showing turning movement counts in the intersection diagram for each period, including truck percentage)
<p>Tab 3: Synchro Analysis</p> <ol style="list-style-type: none"> 1. AM: Time-Space diagram in color, follow by intersection Synchro report (Timing report) summarizing the implemented timings. 2. Midday: same as AM 3. PM: same as AM
<p>Tab 4: Speed and Delay Studies</p> <ol style="list-style-type: none"> 1. Summary of before and after runs results in two (2) tables showing travel time and delay time. 2. Plot of the before and after runs diagram for each direction and time period.
<p>Tab 5: Electronic Files</p> <ol style="list-style-type: none"> 1. Two (2) CDs for the optimized system. The CDs shall include the following elements: <ol style="list-style-type: none"> a. Electronic copy of the SCAT Report in PDF format b. Copies of the Synchro files for the optimized system c. Traffic counts for the optimized system d. New or updated intersection graphic display files for each of the system intersections and system graphic display file including system detector locations and addresses.

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.

SERVICE INSTALLATION, GROUND MOUNTED

(Effective August 15, 2005; Revised January 1, 2007)

In addition to the requirements of Section 805 of the Standard Specifications the following shall apply:

Description: This work shall install, modify, or extend the electric service installation. All installations shall meet the requirements of the details included on the plans and applicable portions of these specifications.

General. The completed control panel shall be constructed in accordance with UL Std. 508, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.

- a. Enclosures: Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished signal door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125 inch thick, the top 0.250 inch thick and the bottom 0.500 inch 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 tamper proof stainless steel .075 inch thick hinge bolted to the cabinet with stainless steel carriage bolts and nylock 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 high, 16 inches wide, and 15 inches 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.
- b. Surge Protector. Over voltage protection, with LED indicator, shall be provided for the 120 volt load circuit by means of MOV and thermal fusing technology. The response time shall be $5n$ seconds and operate within a range of -40° F to 185° F (-40° C to 85° C). The surge protector shall be UL 1449 Listed.

- c. **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. Unless otherwise noted on the plans, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- d. **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.
- e. **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.
- f. **Utility Services Connections.** The Contractor shall contact the utility company, prior to beginning work, to determine the utility company regulations relating to electrical service. The Contractor shall provide the utility company an estimated date that the service connection will be required, the agency which will be responsible for monthly service changes, and the connected load for flat rate billing if required. The customer service agreement with the utility company shall be executed by the agency responsible for monthly service charges.

All information furnished to the utility company shall be in writing with a copy provided to the Engineer. Prior to contacting the Utility Company for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.

During the interim between the service activation date and the signal turn on day, all energy charges for the intersection shall be paid by the Contractor according to Article 109.05 of the Standard Specifications. Beginning the day of the traffic signal turn on, all energy charges for the intersection will be paid by the responsible agency listed in the plans. The Contractor is responsible for making arrangements with the responsible agency to transfer billing to the responsible agency.

- g. **Ground Rod.** Ground rods shall be copper-clad steel, a minimum of 10' in length, and 0.75 inch 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.

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. 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 top of the foundation shall be caulked at the base with silicone.

Basis of Payment. The service installation will be paid for at the contract unit price per each for SERVICE INSTALLATION, GROUND MOUNTED. The Type A foundation which includes the ground rod will be paid for separately.

FIBER OPTIC CABLE IN CONDUIT

(Revised January 1, 2007)

Add the following paragraph to the end of Article 871.04 of the Standard Specifications:

“The trench carrying the fiber optic cable conduit between intersections shall be marked with a one polymer warning stake placed equidistant between handholes. The warning stake shall be a solid orange color with a warning sign at the top of the stake. The stake shall have a sign at the top stating BURIED FIBER OPTIC CABLE ↔ CALL City of Morris at 815-942-1855 BEFORE DIGGING. The sign shall have a nominal dimension of 14 inches (350 mm) by 3 inches (75 mm). The stake shall have a nominal dimension of 3 inches (75 mm) wide by 0.25 inch (6 mm) thick by 5.5 feet (1.67 m) long. Fifty percent of the stake length shall be buried leaving approximately 30 inches (760 mm) exposed above ground displaying the sign. The stake shall be of such design as to deflect upon impact by a vehicle and flex back to original position. The stake shall have a factory-attached anchor. The anchor shall catch soil around the stake and prevent unauthorized removal.”

All fiber optic cables shall be single mode.

This work will not be paid for separately, but shall be included in the cost of the fiber optic cable in conduit.

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 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

RESTORATION OF WORK AREA

(Effective April 1, 2003; Revised January 1, 2007)

Add to Section 801 of the Standard Specifications:

The Contractor shall restore the traffic signal work area as specified in Article 104.06 of the Standard Specifications. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. Restoration of the work area will not be paid for separately, but shall be included in the cost of the associated traffic signal pay items.

LIGHT EMITTING DIODE (LED) SIGNAL HEAD (BDE)

Add the following paragraph to the end of Article 802.03 of the Standard Specifications:

“The warranty for light emitting diode (LED) modules, including the maintained minimum luminous intensities, shall cover a minimum of 60 months from the data of delivery.”

Revise Article 880.01 of the Standard Specifications to read:

“880.01 Description. This work shall consist of furnishing and installing a conventional signal head, optically programmed signal head or light emitting diode (LED) signal head.”

Revise Article 880.02(a) of the Standard Specifications to read:

“(a) Signal Heads 1078.01

Revise the first sentence of the first paragraph of Article 880.03 of the Standard Specifications to read:

“The signal head shall be installed on a post, bracket, span wire or mast arm as shown on the plans.”

Revise the first paragraph of Article 880.04 of the Standard Specifications to read:

“880.04 Basis of Payment. This work will be paid for at the contract unit price each for SIGNAL HEAD, OPTICALLY PROGRAMMED SIGNAL HEAD, or SIGNAL HEAD, LED of the type specified and of the material type when specified,”

Revise Article 1078.01 of the Standard Specifications to read:

“1078.01 Signal Head, Optically Programmed Signal Head and Light Emitting Diode (LED) Signal Head.”

Add the following to Article 1078.01 of the Standard Specifications:

“(3) The LED signal section shall be according to the following:

- a. General Requirements. The LED signal head shall meet the requirements of the Institute of Transportation Engineers (ITE) interim LED purchase specification, “Vehicle Traffic Control Signal Heads, Part 2: LED Vehicle Traffic Signal Modules,” or applicable successor ITE specifications, except as modified herein. The LEDs utilized in the modules shall not be Aluminum Gallium Arsenide (AlGaAs) material technology.
- b. Physical and Mechanical Requirements. The power supply for the LED module shall be integrated with the unit.
- c. Photometric Requirements. The candlepower values for yellow 300mm (12 in) circular modules shall be equal to the corresponding values for green 300 mm (12 in.) circular modules as listed in Table 1 of Section 4 of the aforementioned ITE specification.

The illuminated portion of the arrow module shall be uniformly and completely dispersed with the LEDs.

- d. Electrical Requirements. When applicable to the particular module type, the LED signal module shall be EPA Energy Star qualified. For yellow 300mm (12 in.) circular and arrow modules, the wattage requirements shall be as follows:

Module Type	Maximum Watts (W) At 74°C (165°F)	Nominal Watts (W) At 25°C (77°F)
300 mm (12 in.) Yellow Circular	25	22
300 mm (12 in.) Yellow Arrow	12	10

The LED module shall provide the failed state impedance as specified in ITE, VTCSH, and Part 2.

- e. Warranty. The LED modules shall be warranted according to Article 802.03. The maintained minimum intensities for 30 mm (12 in.) arrow modules throughout the warranty period under the operating temperature and voltage range and at the end of the warranty period shall not be less than the following values:

Module Type	Maintained Minimum Intensities (cd/sq m)
Red Arrow	5,000
Yellow Arrow	11,000
Green Arrow	11,000

ELECTRIC CABLE IN CONDUIT NO. 20, 3/C, TWISTED, SHIELDED

This item shall be provided in accordance with Section 817 of the Standard Specifications, and as directed by the Engineer.

Basis of Payment:

This item shall be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT NO. 20, 3/C, TWISTED, SHIELDED which price shall include payment in full for all labor, equipment, and materials necessary to perform the work as specified herein.

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 (Burndy 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, EQUIPMENT GROUNDING CONDUCTOR, 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.

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 applicable Highway Standards 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.

STEEL COMBINATION 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 and assembly or steel combination mast arm assembly 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.
- (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.

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 meet the current requirements listed in the Highway Standards.

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 36 inches (915 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 36 inches (915 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.

TEMPORARY TRAFFIC SIGNAL INSTALLATION

In addition to the requirements of Section 890 of the Standard Specifications the following shall apply:

The Contractor shall include an uninterruptable power supply in accordance with Section 862 of the Standard Specifications.

The Contractor shall furnish enough extra cable length to relocated traffic signal heads to any position on the span wire to adjust head location as needed during construction staging.

All emergency vehicle preemption equipment 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 labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.

Basis of Payment:

This work shall be paid for at the contract unit price per each for TEMPORARY 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, video vehicle detection system, any maintenance or adjustment to the video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal. Each intersection will be 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 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 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.

All conduits shall enter the handhole at a depth of 30 inches except for the conduits for detector loops when the handhole is less than 5 feet 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 ½ inch diameter with two 90 degree bends and extend into the handhole at least 6 inches. Hooks shall be placed a minimum of 12 inches below the lid or lower if additional space is required.

LOOP DETECTOR TESTING

(Effective December 1, 1999; Revised January 1, 2007)

The Contractor is advised of the presence of existing detector loops which shall be retained in the completed signal installation. The condition of each existing loop detector which will be retained shall be documented.

The required loop detector testing shall consist of measuring the following electrical characteristics of each loop within the intersection to determine if the loop meets the indicated criteria:

1. Loop Inductance. Stable frequency (frequency varies by less than +/-3 hertz) and minimum 50 microhenries when driven by amplifier.

For any loop that does not show a stable frequency, the Contractor shall determine if the unstable frequency is due to equipment malfunctions in the cabinet or outside the cabinet. The Contractor shall notify the Engineer of the source of the unstable frequency. Any problem due to existing equipment problems in the cabinet shall be repaired by city maintenance. Any problem caused by the required construction work shall be repaired and paid for separately on this contract.

Any loop that does not exceed 50 microhenries inductance shall be replaced.

2. Loop Resistance to Ground. Minimum 50 megohms.

For any loop circuit with less than 50 megohms resistance to ground or any loop that is being replaced, the Contractor shall break the loop to lead-in splice and measure the resistance to ground of the detector loop alone and each leg of the detector loop lead-in cable. If a single leg of the lead-in cable has a low resistance to ground, the Contractor shall replace the lead-in cable. If the detector loop, separated from the lead-in cable, passes the required tests, the loop shall not be replaced.

3. Loop Circuit Resistance. Maximum 3 ohms for lead-in less than 200 feet. Maximum 5 ohms for lead-in greater than 200 feet.

For any loop circuit with resistance greater than stated above, the splice shall be opened and the loop and each leg of the lead-in cable shall be tested. If the detector loop cable is the cause of the high resistance reading, the detector loop shall be replaced. If the lead-in cable is the cause of the high resistance reading, the lead-in cable shall be replaced.

The Contractor shall furnish a Decatur Electronics Loop Tester, Model DLT-150, or superior, to measure the loop resistance above ground, and quality factor of each loop. This unit shall remain the property of the Contractor.

The measurements shall be recorded for each loop circuit, including lead-in cable, following completion of the work, in the presence of the Engineer. The measurements shall be taken at the controller cabinet.

Any damaged detector loop or lead-in cable shall be replaced.

If an existing detector loop is damaged due to construction operations, the Contractor shall notify the Department at 815-434-8505 to modify the signal program until the detector loop can be replaced. The Contractor shall replace the loop as soon as possible.

Loop detector testing will be performed at each loop detector circuit following completion of work likely to damage the existing loops. The lead-in cable must be disconnected from the detector loop panel in the cabinet to prevent damage to the inductive loop detector. When the Contractor has made all necessary repairs, the Department's Traffic Signal Section shall be contacted to meet with the Contractor at the intersection to confirm the satisfactory readings.

Method of Measurement:

This work will be measured for payment per intersection, regardless of the number of tests required. Any work required to replace any splices broken for testing of the lead-in cable and detector loop shall be included in the cost of this pay item.

Basis of Payment. This work will be paid for at the contract unit price per each intersection as LOOP DETECTOR TESTING.

PEDESTRIAN PUSH-BUTTON

This work shall be in accordance with Section 1047 of the Standard Specifications except as modified herein.

All pedestrian push-buttons shall be vandal resistant, pressure activated Polara Bulldog model.

Basis of Payment: This work shall be paid for at the contract unit price per each for PEDESTRIAN PUSH-BUTTON and shall be payment in full for labor, equipment, and materials required to supply and install the pedestrian push-buttons described above, complete.

EMERGENCY VEHICLE PRIORITY SYSTEM

This emergency vehicle pre-emption equipment shall be completely compatible with all components of the equipment currently used by the City of Morris. The City currently uses TOMAR equipment.

WHITEWASHING FOR CONCRETE PAVEMENT

Description. This work shall consist of whitewashing the bituminous concrete or bituminous stabilized subbase for concrete pavement.

Materials. Materials shall meet the requirements of the following Articles of the Standard Specifications:

Item	Article/Section
(b) Water -----	1002
(c) Hydrated Lime-----	1012.01
(d) Calcium Carbonate Pigments-----	(Note 1)

Note 1: ASTM D-1199, Type GC or PC, Grade II or finer. Other materials or grades may be used with the approval of the Engineer provided the resulting coating is bright white and uniform in nature. By-product lime will not be allowed.

Equipment. Equipment shall be capable of mixing, continuously agitating, and applying the prepared solution in a uniform manner.

Construction Requirements. When the pavement will be placed between May 15 and October 15, the surface of the bituminous concrete base or bituminous stabilized subbase shall be whitewashed. Whitewashing shall be completed prior to placing the reinforcing steel or load transfer devices. Whitewashing shall not be applied when rain is imminent.

The whitewash shall be prepared by combining two parts water to one part pigment by weight. The ingredients shall be mixed until smooth in consistency and free of lumps. If sufficient coating can be demonstrated, the ratio may be increased up to three parts water to one part pigment by weight with the approval of the Engineer. After mixing, the whitewash shall be continually agitated until applied.

The whitewash shall be uniformly applied to the entire bituminous concrete base or bituminous stabilized subbase at a rate of 0.35 L/sq m (0.075 gal/sq yd). The method of application shall be approved by the Engineer. Thick films from splits or over application shall be removed by means that does not damage the base or subbase.

Method of Measurement. White washing for concrete pavement will be measured for payment in square yards (square meters).

Basis of Payment. White washing for concrete pavement will be paid for at the contract unit price per square yard (square meter) for WHITEWASHING FOR CONCRETE PAVEMENT.

HOT-MIX SURFACE REMOVAL, VARIABLE DEPTH

Description. This work shall consist of variable depth removal of hot-mix asphalt surface to provide the depth required to place the final surface course according to plan details, and applicable portions of Section 440 of the Standard Specifications.

Method of Measurement. Hot-Mix Asphalt Surface Removal 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 HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH.

ISLAND PAVEMENT REMOVAL

Description: This work shall consist of the complete removal and disposal of island pavement as shown on the plans and as directed by the Engineer. This work shall be done in accordance with applicable portions of Section 440 of the Standard Specifications and shall include the removal of the concrete island surface, concrete curb & gutter, and excavation below the concrete to a depth of the bottom of the adjacent asphalt pavement.

Basis of Payment: This work will be paid for at the contract unit price per Square Yard for ISLAND PAVEMENT REMOVAL.

PIPE UNDERDRAINS 4" (MODIFIED)

(Effective January 1, 2010)

Description. This work consists of constructing pipe underdrains according to the applicable portions of Section 601 of the Standard Specifications and Highway Standard 601001.

Materials. The pipe underdrain material used shall meet the requirements of AASHTO M 252-96 except the pipe shall have a slot width of 0.07 in. \pm 0.01 in. (1.75 mm \pm 0.25 mm). The number of slots and the slot length may be modified to maintain the inlet flow specified in AASHTO M 252-96. Fabric around the pipe is not allowed.

The backfill material shall meet the requirements of Section 1003 of the Standard Specifications for a FA-4 Natural Sand or Gravel and meet the following gradation requirements:

Sieve Size	Percent Passing
3/8" (9.5 mm)	100
No. 10 (2 mm)	10 \pm 10
No. 16 (1.18 mm)	5 \pm 5
No. 200 (75 um)	1 \pm 1

Method of Measurement. Backfill material will not be paid for separately, but shall be included in the unit cost of the underdrain.

Basis of Payment. This work will be paid at the contract unit price per foot (meter) for PIPE UNDERDRAINS 4" (MODIFIED) (PIPE UNDERDRAINS 100MM, MODIFIED).

CONCRETE MEDIAN, TYPE SB & TYPE SM (SPECIAL)

Description. This work shall consist of providing all labor, equipment and materials necessary for the installation of Concrete Median, Type SB (Special) and Concrete Median, Type SM (Special) in accordance with Section 606 of the Standard Specifications, Highway Standard 606301, and plans details.

Method of Measurement. This work will be measured for payment by square foot.

Basis of Payment. This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN, TYPE SB (SPECIAL) and CONCRETE MEDIAN, TYPE SM (SPECIAL).

DRAINAGE STRUCTURE TO BE REMOVED

Description: This work shall consist of the removal and disposal of all drainage structures, manholes, field tile junction vaults, catch basins, or inlets as shown on the plans unless otherwise specified and as directed by the Engineer. This work shall be done in accordance with the applicable portions of Section 605 of the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per Each for DRAINAGE STRUCTURE TO BE REMOVED.

GRANULAR CULVERT BACKFILL

This work consists of backfilling box culverts or three-sided structures with granular materials. This work shall be performed at locations shown on the plans or as directed by the Engineer. The quantity of backfill for each culvert is shown in a plan schedule and the work is shown in the Box Culvert Backfilling Detail in the plans.

Backfilling shall be performed according to Article 502.10. The backfill material shall meet the requirements of Article 1004.05, except the gradation shall be CA-07 or CA-11.

Granular Culvert Backfill will be measured for payment in cubic yards compacted in place. Additional material required to backfill excavation outside the limits shown on the plans will not be measured for payment. This work shall be paid for at the contract unit price per cubic yard for GRANULAR CULVERT BACKFILL.

TEMPORARY PAVEMENT

Description. This work shall consist of furnishing all labor, equipment and materials to install and remove temporary pavement including hot-mix asphalt, prime coat and sub-base granular material in accordance with applicable portions of Sections 311, 406 and 440 of the Standard Specifications and at the locations shown in the plans.

Method of Measurement. This work will be measured for payment by square yards.

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

TEMPORARY LIGHTING SYSTEM

This work shall consist of providing a temporary lighting system as shown in the plans.

Description of Work. This item requires the installation of a temporary lighting system so the northbound and southbound connections are illuminated during Stage 4 construction. The temporary lighting system shall be in accordance with the applicable articles of Section 800 and 1000 of the Standard Specifications.

The temporary lighting system shall be maintained by the contractor.

All energy charges associated with the temporary lighting system shall be paid by the Contractor and shall be included in this pay item until such time as the Temporary Lighting System is removed or until the State takes possession thereof.

The temporary lighting system will remain in place after construction is complete.

Responsibility of the Bidder. The installation shall comply with the National Electrical Code and any other codes which are applicable. The devices to be installed shall be compatible with the voltage and other electrical requirements of the system and shall equal or exceed the capacity required by the system. If the bidder finds instances in which governing codes will be violated or the items which are specified are not compatible or have inadequate capacity, he shall immediately advise the engineer to this effect and enable the engineer to take the proper action before awarding the contract. Where it is necessary to make such changes after the contract is awarded, no extra payment will be allowed.

Before submitting a bid, the bidder shall confer with the company supplying services to these installations and determine its charges for extending or modifying its lines and for making any other provisions for serving the installation. These charges are included with the cost of control and service installation and no extra compensation will be allowed. All service installations and energy costs will be the responsibility of the contractor. The bidder shall be responsible for determining the character of the soil, underlying rock formations, and conflicting structures where the contractor shall cut trench or excavate for foundations. All expenses incurred because of the unusual soil, rock or structures shall be borne by the contractor. Such expenses shall be considered as included to the contract and no additional compensation will be allowed.

Responsibility of Contractor. The contractor shall provide complete temporary lighting systems, thoroughly tested to the satisfaction of the Engineer and in operating condition. He is cautioned to use the procedures outlined. For example, it is necessary that the wiring be meggered in the presence of the engineer. All defective or damaged parts must be replaced at no extra cost before payment will be made even though approval has been given to use the parts on the basis of manufacturer's specifications and descriptions.

The Contractor, at his own expense, shall furnish all materials, equipment and labor necessary in performing the final inspection. Any inconvenience, delays or additional expense caused the contractor in complying with these special provisions shall be considered as incidental to the contract and no additional compensation will be allowed.

Approval of Materials. Electrical materials shall be new and of the types and brands approved by the Engineer.

All wood poles shall be a minimum of fifty (50) feet in length. Previously used poles and appurtenant items will be acceptable upon physical inspection and approval by the Engineer.

Poles shall be in good condition as acceptable to the Engineer and shall be in conformance with the applicable ANSI requirements for sweep, crook, defects and mechanical damage. Poles deemed unacceptable by the Engineer shall be removed from the job site.

Poles shall be stored and handled in conformance with the requirements of ANSI 05.1 summarized as follows:

- a) Storage stacking shall not produce pole distortion
- b) Poles shall be stored at least 1-foot above grade
- c) Poles shall not have vegetation thereon or decaying wood below
- d) Poles shall not be dragged along the ground

Basis of Payment. This work shall be paid for at the contract lump sum price for TEMPORARY LIGHTING SYSTEM which price shall be payment in full for all labor, materials and equipment necessary to install a complete temporary lighting system. This price shall also include any necessary adjustments.

MAINTENANCE OF TEMPORARY LIGHTING SYSTEM

Description. This work shall consist of servicing and repairing all temporary lighting equipment so that all lights are lit each night for the duration of the contract. The energy charges for the operation of the highway lighting will be paid for by the Contractor under the pay item TEMPORARY LIGHTING SYSTEM.

All work shall be performed in accordance with the Standard Specifications and as directed by the Engineer.

The contractor shall be responsible for all maintenance of the temporary lighting beginning upon installation and shall end upon the state taking possession when all work is complete. No lighting circuit or portion thereof shall be removed from the nighttime operation without the approval of the Engineer.

The contractor shall supply all materials and labor to perform all maintenance required. The contractor shall make every effort to ensure that each light is functioning before he leaves the job site. The contractor shall replace all burnouts on a next day basis and initiate circuit outage repairs one hour after discovery or notification. When temporary repairs are made during night hours, permanent repairs shall be made starting the following work day and continuing until completed. The contractor shall maintain in stock a sufficient amount of material and equipment to provide temporary and permanent repairs. The contractor shall be required to install temporary wiring as necessary to keep all lights functioning every night. All temporary wiring and splicing shall be included in this pay item.

The contractor shall be reimbursed for repair of accident damage according to Article 109.04.

The contractor shall provide the resident engineer with the names and telephone numbers of two persons who will be available 24 hours a day, 7 days a week to perform any necessary work on the highway lighting.

If at any time the contractor fails to perform any work deemed necessary by the Engineer to keep the highway lighting in proper operating condition or if the Engineer is unable to contact the designated persons to perform the work, the Department reserves the right to have other electrical contractors perform the needed work. The cost of such work will be deducted from the amount due to the contractor.

Basis of payment. This work shall be paid for at the contract lump sum price for MAINTENANCE OF TEMPORARY LIGHTING SYSTEM, which price shall be payment in full for all materials, equipment, and labor necessary to inspect and maintain the temporary highway lighting equipment and circuits. Fifty percent of the bid price will be paid for upon beginning the maintenance of the lighting. Twenty-five percent will be paid upon completion of Stage 3 Construction. Twenty-five percent will be paid upon release of the contractor from maintenance responsibility.

FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
(Effective January 1, 2002; Revised January 1, 2007)

Full Actuated Controller and Type IV Cabinet shall meet the requirements of Sections 857, 1073 and 1074 of the Standard Specifications with the following modifications.

This item requires that a factory representative capable of ensuring that the controller and cabinet are operating to the satisfaction of the Engineer shall be present at the turn on of the controller and shall remain until the intersection is operating to the satisfaction of the Engineer. Should a defect appear in the controller or cabinet operation, the representative shall return as often as necessary until all defects are repaired.

At the preconstruction meeting, the Contractor shall provide the names and phone numbers of two technicians who would be able to respond to controller malfunctions that occur within the 30 day acceptance period after the controller is turned on. If neither person can be reached at the time of the malfunction nor be at the location within 2 hours of receiving the call, any available electrician capable of evaluating and correcting the malfunction may be called at the State's discretion. Any and all bills resulting from defective operation of the controller or cabinet shall be the responsibility of the Contractor.

CONTROLLER:

The controller shall be capable of uploading and downloading its database to a laptop computer that has been installed with the proper software. All uploaded data shall be able to be changed within the laptop and then downloaded to the controller. The necessary cables for upload/download shall be provided and upload/download software shall be provided and installed onto the District Three laptop computer if the software and cables have not already been supplied to District Three or the software presently being used by District Three requires updating.

The controller data entry fields shall have a clear distinction between data fields and information. Data fields shall be in matrix format with a minimum of eight phases wide and four data lines deep.

The active status screen shall display the following information for all operating phases in an alpha-numeric display.

A clear distinction between the following detection's for each phase: vehicle recall, vehicle detection, pedestrian recall, and pedestrian detection.

A clear distinction among the phases receiving detection.

Status displayed simultaneously whenever one or more of the following is operating: vehicle passage timer, maximum phase timer, added initial timer, time before reduction timer, time to reduce timer, existing gap timer, walk timer, don't walk timer.

When a phase ends, the controller shall report whether the exit was a max out, gap out or force out condition. The controller shall show the yellow and red timers timing and any trailing overlap timers timing.

The color of all operating overlaps.

The phase of the controller shall be as shown in the plans.

CONTROLLER CABINET:

The police door compartment shall contain a manual control cord from which the signals may be operated manually. The inside door toggle switches shall be protected from accidental contact by vertical metal slats. The slats shall extend beyond the switches, in a manner similar to the terminals on the back panel. A plastic plans holder shall be installed on the cabinet door. The holder shall be at least 11 inches high and 17 inches wide, shall open from the side, and shall not interfere with the filter. The holder shall have a means of closing the side opening to prevent water from entering.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power panel. The cover shall completely shield the service wires, and circuit breaker wires from accidental contact.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power terminals for the thermostatically controlled exhaust fan. The thermostat shall be of the knob type capable of adjustment by hand and without tools. The thermostat and terminals shall be mounted on the left or right side of the controller cabinet.

All harness wiring of connectors A, B, C and D shall be factory installed so that an additional phase may be added to the existing phasing by the addition of a load switch and the proper conflict monitor card pinning.

A self-adhering phasing diagram shall be placed on the inside of the cabinet door.

Three 0.4 meter (15 inch) Velcro straps shall be fastened to the front of each cabinet shelf to secure the detector amplifier cables.

Traffic signal controller and the cabinet assembly shall be fully tested by the equipment supplier. Five (5) copies of the complete cabinet wiring showing all connections shall be furnished to the Engineer.

LIGHTING CONTROLLER:

This work shall be in accordance with Section 825 of the Standard Specifications with the following modifications:

- The lighting controller shall be Type CB-RCS 60 AMP 240 Volt.
- The lighting controller cabinet shall be installed in the traffic signal controller cabinet.
- The photocell shall be mounted on top of the traffic signal cabinet.

Basis of Payment:

This work will be paid for at the contract unit price per each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL. The lighting controller for the combination lighting will not be paid for separately.

FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL

Effective: January 1, 2002; Revised: January 1, 2007

Full Actuated Controller and Type V Cabinet shall meet the requirements of Sections 857, 1073 and 1074 of the Standard Specifications with the following modifications.

This item requires that a factory representative capable of ensuring that the controller and cabinet are operating to the satisfaction of the Engineer shall be present at the turn on of the controller and shall remain until the intersection is operating to the satisfaction of the Engineer. Should a defect appear in the controller or cabinet operation, the representative shall return as often as necessary until all defects are repaired.

At the preconstruction meeting, the Contractor shall provide the names and phone numbers of two technicians who would be able to respond to controller malfunctions that occur within the 30 day acceptance period after the controller is turned on. If neither person can be reached at the time of the malfunction nor be at the location within 2 hours of receiving the call, any available electrician capable of evaluating and correcting the malfunction may be called at the State's discretion. Any and all bills resulting from defective operation of the controller or cabinet shall be the responsibility of the Contractor.

CONTROLLER:

The controller shall be capable of uploading and downloading its database to a laptop computer that has been installed with the proper software. All uploaded data shall be able to be changed within the laptop and then downloaded to the controller. The necessary cables for upload/download shall be provided and upload/download software shall be provided and installed onto the District Three laptop computer if the software and cables have not already been supplied to District Three or the software presently being used by District Three requires updating.

The controller data entry fields shall have a clear distinction between data fields and information. Data fields shall be in matrix format with a minimum of eight phases wide and four data lines deep.

The active status screen shall display the following information for all operating phases in an alpha-numeric display.

A clear distinction between the following detection's for each phase: vehicle recall, vehicle detection, pedestrian recall, and pedestrian detection.

A clear distinction among the phases receiving detection.

Status displayed simultaneously whenever one or more of the following is operating: vehicle passage timer, maximum phase timer, added initial timer, time before reduction timer, time to reduce timer, existing gap timer, walk timer, don't walk timer.

When a phase ends, the controller shall report whether the exit was a max out, gap out or force out condition. The controller shall show the yellow and red timers timing and any trailing overlap timers timing.

The color of all operating overlaps.

The phase of the controller shall be as shown in the plans.

CONTROLLER CABINET:

The cabinet minimum size shall be of 44"x26"x60" (LxBxH) and shall provide a third shelf for mounting additional equipment.

The police door compartment shall contain a manual control cord from which the signals may be operated manually. The inside door toggle switches shall be protected from accidental contact by vertical metal slats. The slats shall extend beyond the switches, in a manner similar to the terminals on the back panel. A plastic plans holder shall be installed on the cabinet door.

The holder shall be at least 11 inches high and 17 inches wide, shall open from the side, and shall not interfere with the filter. The holder shall have a means of closing the side opening to prevent water from entering.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power panel. The cover shall completely shield the service wires, and circuit breaker wires from accidental contact.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power terminals for the thermostatically controlled exhaust fan. The thermostat shall be of the knob type capable of adjustment by hand and without tools. The thermostat and terminals shall be mounted on the left or right side of the controller cabinet.

All harness wiring of connectors A, B, C and D shall be factory installed so that an additional phase may be added to the existing phasing by the addition of a load switch and the proper conflict monitor card pinning.

A self adhering phasing diagram shall be placed on the inside of the cabinet door. Three 0.4 meter (15 inch) Velcro straps shall be fastened to the front of each cabinet shelf to secure the detector amplifier cables.

Traffic signal controller and the cabinet assembly shall be fully tested by the equipment supplier. Five (5) copies of the complete cabinet wiring showing all connections shall be furnished to the Engineer.

LIGHTING CONTROLLER:

This work shall be in accordance with Section 825 of the Standard Specifications with the following modifications:

- The lighting controller shall be Type CB-RCS 60 AMP 240 Volt.
- The lighting controller cabinet shall be installed in the traffic signal controller cabinet.
- The photocell shall be mounted on top of the traffic signal cabinet.

Basis of Payment:

This work will be paid for at the contract unit price per each for FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL. The lighting controller for the combination lighting will not be paid for separately.

TEMPORARY LIGHTING LUMINAIRE PERFORMANCE TABLE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 LUMINAIRE PERFORMANCE TABLE

GIVEN CONDITIONS

ROADWAY DATA:	Pavement Width	<u>24 FT</u>
	Number of Lanes	<u>2</u>
	Median Width	<u>32 FT</u>
	IES Surface Classification	<u>R3</u>
	Q-Zero Value	<u>.07</u>
LIGHT POLE DATA:	Mounting Height	<u>42 FT</u>
	Mast Arm Length	<u>0 FT</u>
	Pole Set-Back From Edge of Pavement	<u>30 FT</u>
LUMINAIRE DATA:	Lamp Type	<u>HPS</u>
	Lamp Lumens	<u>28,500</u>
	IES Vertical Distribution	<u>L</u>
	IES Control of Distribution	<u>NC</u>
	IES Lateral Distribution	<u>4</u>
	Total Light Loss Factor	<u>0.684</u>
LAYOUT DATA:	Spacing	<u>225 FT</u>
	Configuration	<u>Opposite</u>
	Luminaire Overhang Over Edge Of Pavement Lane	<u>-30 FT</u>

NOTE: Variations from the above specified IES 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.

ILLUMINATION:	Average Horizontal Illumination, (E_{AVE})	6.0 Lux
	Uniformity Ratio, (E_{AVE}/E_{MIN})	3.0
LUMINANCE:	Average Luminance: (L_{AVE})	0.8 Cd/m ²
	Uniformity Ratios (L_{AVE}/L_{MIN})	3.0
	(L_{MAX}/L_{MIN})	5.0
	Maximum Veiling Luminance Ratio: (L_V/L_{AVE})	<u>0.3</u>

LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT

Luminaires shall be according to Section 821 of the Standard Specifications and as follows:

**ILLINOIS DEPARTMENT OF TRANSPORTATION
 LUMINAIRE PERFORMANCE TABLE – PROPOSED LIGHTING**

GIVEN CONDITIONS

ROADWAY DATA:	Pavement Width	<u>24 FT</u>
	Number Of Lanes (In Direction of Travel)	<u>2</u>
	Median Width	<u>30 FT</u>
	IES Surface Classification	<u>R3</u>
	Q-Zero Value	<u>.07</u>
LIGHT POLE DATA:	Mounting Height	<u>50 FT</u>
	Mast Arm Length	<u>12 FT</u>
	Pole Set-Back From Edge Of Pavement	<u>-20 FT</u>
LUMINAIRE DATA:	Lamp Type	<u>HPS</u>
	Lamp Lumens	<u>50,000</u>
	IES Vertical Distribution	<u>M</u>
	IES Control Of Distribution	<u>C</u>
	IES Lateral Distribution	<u>3</u>
	Total Light Loss Factor	<u>0.684</u>
LAYOUT DATA:	Spacing	<u>285 FT</u>

Configuration

Staggered

**Luminaire Overhang Over Edge
 Of Pavement Lane**

- 8 FT

NOTE: Variations from the above specified IES 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.

ILLUMINATION:	Average Horizontal Illumination, (E_{Ave})	<u>0.9</u>
<u>fc</u>	Uniformity Ratio, (E_{Ave}/E_{Min})	<u>3.0</u>
<hr/>		
LUMINANCE:	Average Luminance: (L_{Ave})	<u>0.60 Cd/m²</u>
	Uniformity Ratios: (L_{Ave}/L_{Min})	<u>3.5</u>
	(L_{Max}/L_{Min})	<u>6.0</u>
	Maximum Veiling Luminance Ratio: (L_v/L_{Ave})	<u>0.3</u>

SANITARY SEWERS

This work shall consist of work to remove existing sanitary manholes, remove and replace existing sanitary manholes, reconstruct existing sanitary sewer manholes, adjust sanitary sewer manholes, and remove and replace sanitary sewer mains and service lines.

The work shall be completed in accordance with the Standard Specifications for Water and Sewer Construction in Illinois, Illinois Department of Transportation Standard Specifications for Road and Bridge Construction (Roadway Specifications), current edition, and these Special Provisions. Where conflicting specifications are found, the Special Provisions shall be used.

References.

- American Concrete Institute:
 - ACI 318-Building Code Requirements for Structural Concrete.
 - ACI 530-530.1-Building Code Requirements for Masonry Structures and Specifications for Masonry Structures.

ASTM International:

ASTM A48/A48M-Standard Specifications for Gray Iron Castings.
ASTM A74-Standard Specification for Cast Iron Soil Pipe and Fittings.
ASTM A123/A123M-Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
ASTM 536-Standard Specification for Ductile Iron Castings.
ASTM 746-Standard Specification for Ductile Iron Gravity Sewer Pipe.
ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
ASTM C478-Standard Specification for Precast Reinforced Concrete Manhole Section.
ASTM C497-Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
ASTM C913-Standard Specification for Precast Concrete Water and Wastewater Structures.
ASTM C923-Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.
ASTM C1244-Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test.
ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft³ (2,700 kN-m/m³)).
ASTM D1785 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
ASTM D2466 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
ASTM D2564 - Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.
ASTM D2729 - Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
ASTM D3034 - Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
ASTM D3350-05 – Standard Specification for Polyethylene Plastic Pipe and Fittings Materials.
ASTM F477-Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

ASTM F 714-05 – Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.

ASTM F 2620 – Standard Practices for Heat Fusion of Polyethylene Pipe and Fittings.

American Water Works Association:

AWWA C104 - American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.

AWWA C110 - American National Standard for Ductile-Iron and Grey-Iron Fittings, 3 in. through 48 in. (75 mm through 1200 mm), for Water and Other Liquids.

AWWA C111 - American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

AWWA C150 - ANSI Standard for the Thickness Design of Ductile Iron Pipe.

AWWA C151 - American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.

AWWA C153 - American National Standard for Ductile-Iron Compact Fittings for Water Service.

Design Requirements – Manholes and Structures.

Equivalent strength: Based on structural design of reinforced concrete as outlined in ACI 318.

Design of Lifting Devices for Precast Components: In accordance with ASTM C913.

Design of Joints for Precast Components: In accordance with ASTM C913; maximum leakage of 0.025 gallons per hour per foot of joint at 3 feet of head.

Products.

MANHOLES AND STRUCTURES

B. Manufacturers:

1. Welch Brothers
2. Concrete Specialties, Inc.
3. County Materials Corp.
4. Norwalk Tank

C. Manhole and Structure Sections: Reinforced precast concrete in accordance with ASTM C478 with gaskets in accordance with ASTM C443.

1. Joints for Precast Manholes and Structures: In accordance with ASTM C913; maximum leakage of 0.025 gallons per hour per foot of joint at 3 feet of head.
2. Joints shall be tongue-and-groove type.
3. Foundation Slab: Precast concrete poured monolithically with manhole barrel section.
4. Flat Top Slab: Provide as vertical depth requires. Shall have a two foot diameter opening.

FRAMES AND COVERS

- A. Manufacturers:
 - 1. Neenah Foundry Co.
 - 2. East-Jordan Iron Works Co.

- B. Product Description: ASTM A48/A48M, Class 30B; Cast iron construction.
 - 1. Sanitary sewer manhole castings: Heavy duty frame, machined flat bearing surface, and removable lid. Lid shall be a closed with enclosed pick holes, self-sealing gasket, and lid marked "SANITARY".
 - 2. Sanitary sewer manhole castings: Neenah Model R1713, East Jordan Iron Works 1050 Z1, or approved equal.

ACCESSORIES

- E. Manhole and Structure Steps: Formed polypropylene rungs; 1 inch diameter; 10 inches wide; 16 inches on center vertically. Formed integral with manhole sections.
- F. Sanitary Manhole Chimney Seal: External type; constructed out of EPDM rubber with a minimum thickness of 60 mil.; width at required minimum 7"; "C" shaped mechanical upper compression band. Shall be "SURSEAL" type as manufactured by Mar Mac Construction Products, or equal. The use of external type seal with flat slab top shall not be permitted unless the flat slab top has an integrally cast curb around opening of a height of 2" minimum.
- G. Sanitary Manhole Chimney Seal: Internal type; rubber sleeve 8-3/8 inch wide, minimum, with two 1-3/4 inch stainless steel expansion bands as manufactured by Cretex, or approved equal.
- H. Sanitary Manhole External Sealing Bands: In accordance with ASTM C877; Type II; plastic film and mesh reinforced bands.
- I. Sanitary Manhole, Pipe to Manhole Connector: In accordance with ASTM C923; flexible, rubber compression type connectors; cast into the manhole section. Shall be as manufactured by A-Lok Products, or approved equal.
- J. Sanitary Manhole, Pipe to Manhole Connector for, Field Created Openings or Dog House Style Manholes: Provide a rubber water stop grouting ring, as manufactured by Press-Seal Gasket Corp., or approved equal, steel clamping bands for attaching ring to pipe. Non-shrink grout shall be placed around the entire water stop in order to form a water tight seal around manhole opening.
- K. Manhole and Structure Joint Sealants:
 - 3. Preformed Joint Sealants: In accordance with ASTM C990
 - 4. Elastomeric Joint Sealants: In accordance with ASTM C920

MANHOLE BEDDING AND COVER MATERIALS

- A. Bedding: CA-7 coarse aggregate or FA-6 fine aggregate.
- B. Aggregate Backfill; Trench backfill, CA-7 coarse aggregate or FA-6 fine aggregate.
- C. The Contractor shall strictly follow the manufacturer's backfilling directions and shall use materials in accordance with those directions.

SANITARY SEWER PIPE AND FITTINGS

- A. Plastic Pipe, 4"-12" diameter: ASTM D3034, Type PSM, poly vinyl chloride (PVC) material; SDR 26; inside nominal diameter as indicated on drawings, bell and spigot style rubber ring sealed gasket joints.
 - a. Fittings: PVC, SDR 26.
 - b. Joints: ASTM D3132 and ASTM F477 elastomeric gaskets.
- B. Ductile Iron Pipe, 2"-15" diameter: AWWA C150, AWWA C151 and ASTM A746, extra heavy type, Class 50 or above, bell and spigot ends.
 - a. Outside Coating: AWWA C151, asphaltic coating, 1 mil uniform thickness.
 - b. Lining: Cement mortar lined in accordance with AWWA C104.
 - c. Fittings: AWWA C153 or AWWA C110, ductile-iron, Class 50 or above, cement lined in accordance with AWWA C104.
 - d. Coat pipe and fittings exposed inside structures with 2 coats of bituminous paint to achieve dry film thickness of 1 mil per coat.
 - e. Mechanical Joints: AWWA C111, rubber gasket joint devices.

UNDERGROUND PIPE MARKERS

- A. Plastic Ribbon Tape: Bright colored, continuously printed, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service.

Execution.

MANHOLES TO BE ADJUSTED

Existing frames and lids of manholes to be adjusted shall be removed and disposed of in accordance with Article 501.05 of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction (Roadway Specifications). Exposed concrete surfaces to remain shall be cleaned and prepared to receive precast concrete adjusting rings. New frames and lids shall be adjusted to the finished elevation according to applicable portions of Section 602 of the Roadway Specifications. Joints between adjusting rings and existing concrete shall be sealed with chimney seals and preformed flexible joint sealant shall be used between the new frame and the top adjusting ring. Joints between multiple adjusting rings shall be sealed with an external manhole joint seal.

MANHOLES TO BE RECONSTRUCTED

Existing frames and lids and the conical manhole section of manholes to be reconstructed shall be removed and disposed of in accordance with Article 501.05 of the Roadway Specifications. The conical section shall be replaced with the appropriate diameter manhole section and flat slab top required to achieve the proposed rim elevation for the new frame and lid. The joining end of the new manhole section shall be mated with the remaining manhole section. The joint between manhole sections shall be sealed with an external manhole joint seal. The joints between the flat top and the manhole section and the new frame shall be sealed with preformed flexible joint sealant.

MANHOLES TO BE REMOVED

Sanitary manholes to be removed shall be removed and disposed of in accordance with applicable portions of Article 605 of the Roadway Specifications and this Special Provision. The Contractor shall provide by-pass pumping of sanitary sewage around the work areas. Flow shall be blocked by placing an expandable plug at an existing manhole or structure. The lengths of sanitary sewer entering and exiting the manhole shall be removed to the next joint from the manhole unless directed otherwise by the Engineer. Prior to removal of existing manholes which are to be replaced, the Contractor shall field measure existing sewer lines to verify size, type, location, and elevations of existing sewer pipes.

PLUG EXISTING SANITARY SEWERS

Where existing sanitary sewer lines are to be abandoned, the open ends shall be sealed with Class SI concrete or brick and mortar.

SANITARY MANHOLES

Sanitary manholes shall be constructed in accordance with applicable portions of Article 602 of the Roadway Specifications, these Special Provisions and the details in the Plans. The bottom slabs of sanitary sewer manholes shall be cast monolithically with the first section of the manhole. Work to install sanitary manholes shall include the length of sewer pipe necessary to connect to the existing sewer lines to enter or exit the manholes. Prior to fabrication of the manholes, the Contractor shall field verify the size, type, location, and elevations of all pipes that will enter or exit the manhole.

Sanitary manholes shall be set on 6" of crushed stone bedding. The base at the manholes shall be grouted to achieve slope between entering and exiting pipes. The grout shall be trowelled smooth to create a channel and sloped to drain.

SANITARY SEWER PIPE

Sanitary sewer pipe shall be placed to grades as indicated in the Plans and in accordance with applicable portions of Article 550 of the Roadway Specifications. The bedding, haunching, and initial backfill material shall be CA-7 course aggregate. The final/trench backfill shall be CA-7 course aggregate or FA-6 fine aggregate to top of subgrade material. Backfill shall be compacted in 8" lifts to minimum 95 percent maximum density. Plastic ribbon tape shall be buried continuous over the pipe, 2 foot above the pipe.

TESTING

Upon completion of work to construct new or modify existing manholes, these manholes shall be tested per the requirements of the Standard Specifications for Water and Sewer Main Construction in Illinois, current edition.

Method of Measurement.

This work will be measured for payment as follows:

- a. Sanitary sewer pipe removed and replaced with work to remove existing manholes and place new manholes will not be measured for payment but shall be considered included in the cost of SANITARY MANHOLES TO BE REMOVED and MANHOLES, SANITARY.
- b. Sanitary sewer pipe not included in the above will be measured for payment in place in feet.
- c. Type 1 frames and lids will not be measured for payment separately but shall be considered included in the cost of related work at the manhole.
- d. Trench backfill for sanitary sewer work will not be measured for payment.

Basis of Payment.

This work will be paid for at the contract unit price per each for PLUG EXISTING SANITARY SEWERS; MANHOLES, SANITARY of the size specified and designated frame and lid; SANITARY MANHOLES TO BE REMOVED, SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAMES CLOSED LID; SANITARY MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME CLOSED LID; and at the contract unit price per foot for SANITARY SEWERS of the type and size specified.

SPECIAL PROVISION FOR DOWEL BAR INSERTER (BMPR)

(Effective: April 1, 2012)

Revise Article 420.05(c) to read:

- (c) Transverse Contraction Joints. Transverse contraction joints shall consist of planes of weakness created by sawing grooves in the surface of the pavement and shall include load transfer devices consisting of dowel bars. Transverse contraction joints shall be according to the following.

Revise Article 420.05(c)(2) to read:

(2) Dowel Bars. Dowel bars shall be installed parallel to the centerline of the pavement and parallel to the proposed pavement surface. Installation shall be according to one of the following methods.

- a. Dowel Bar Assemblies. The assembly shall act as a rigid unit with each component securely held in position relative to the other members of the assembly. The entire assembly shall be held securely in place by means of nails which shall penetrate the stabilized subbase. At least ten nails shall be used for each 10, 11, or 12 ft (3, 3.3, or 3.6 m) section of assembly. Bearing plates shall be punched to receive the nails. When bearing plates are omitted on stabilized subbase, other methods for securing the assembly with nails shall be provided.

Metal stakes shall be used instead of nails, with soil or granular subbase. The stakes shall loop over or attach to the top parallel spacer bar of the assembly and penetrate the subgrade or subbase at least 12 in. (300 mm).

At the location of each dowel bar assembly, the subgrade or subbase shall be reshaped and re-tamped when necessary.

Prior to placing concrete, any deviation of the dowel bars from the correct horizontal or vertical alignment (horizontal skew or vertical tilt) greater than 3/8 in. in 12 in. (9 mm in 300 mm) shall be corrected and a light coating of oil shall be uniformly applied to the dowel bars.

Care shall be exercised in depositing the concrete at the dowel bar assemblies so that the horizontal and vertical alignment will be retained.

- b. Inserted Dowel Bars. The dowel bars shall be placed in the pavement slab with a mechanical dowel bar inserter (DBI) attached to a formless paver.

The DBI shall be self-contained and supported on the formless paver with the ability to move separately from the paver. The DBI shall be equipped with insertion forks along with a tamping bar, finishing pan, and any other devices necessary for finishing the concrete the full width of the pavement. The insertion forks shall have the ability to vibrate at a minimum frequency of 3000 vpm.

The DBI shall insert the bars with vibration into the plastic concrete after the concrete has been struck off and consolidated without deformation of the slab. After the bars have been inserted, the concrete shall be refinished and no voids shall exist around the dowel bars. The forward movement of the finishing screed shall not be interrupted by the inserting of the dowel bars.

The exact location of each row of dowels shall be marked on the subbase as indicated by the plans. The location of each row of dowels inserted by the DBI shall be prominently marked on both sides of the pavement to facilitate sawing of the transverse joint.

1. Placement Tolerances. The mechanical dowel bar inserter shall place the dowel bars in the concrete pavement within the following tolerances:
 - (a.) Longitudinal translation (side shift) is defined as the position of the center of the dowel bar along the longitudinal axis, in relation to the sawed joint. The maximum allowable longitudinal translation is 2 in. (50 mm).
 - (b.) Horizontal translation is defined as difference in the actual dowel bar location parallel to the transverse axis of the joint from its theoretical position as detailed in the standard details. The maximum allowable horizontal translation is 2 in. (50 mm).
 - (c.) Vertical translation (depth) is the difference in the actual dowel bar location from the theoretical midpoint of the slab. The maximum allowable vertical translation is 1/2 in. (12.5 mm) above the theoretical midpoint and 1 in. (25 mm) below the theoretical midpoint.
 - (d.) Dowel bar misalignment, either vertical tilt or horizontal skew is defined as the difference in position of the dowel bar ends with respect to each other. Vertical tilt is measured in the vertical axis whereas horizontal skew is measured in the horizontal axis. The maximum allowable misalignment shall be 3/8 in. in 12 in. (9 mm in 300 mm).
2. Evaluation of Dowel Bar Placement by Magnetic Tomography. The location and alignment of the dowel bars shall be tested with a calibrated magnetic imaging device. The testing device shall be approved by the Engineer prior to the start of testing and shall include the following items:
 - (a.) the sensor unit;
 - (b.) an onboard computer that runs the test, collects and stores the data and performs preliminary evaluation;
 - (c.) a rail system to guide the sensor unit parallel to the joint and the pavement surface at a constant elevation for the full width of the pavement that is placed; and
 - (d.) associated PC software recommended by the manufacturer of the device for installation on a Department laptop computer. The program shall be compatible with Windows NT.

A trained operator shall perform the scans with the device and provide the printed results. All testing shall be performed in the presence of the Engineer. The test results for each joint shall be printed directly from the onboard computer immediately after the scan is performed and given to the Engineer. The results shall also be stored on a flash memory card used in the onboard computer that shall be given to the Engineer at the end of each day.

The device shall be calibrated to the type and size dowel bar used in the work according to the manufacturer's instructions. The Contractor may utilize this device as a process control and make necessary adjustments to ensure the dowels are placed in the correct location.

Test sections consisting of the first 20 joints of concrete pavement on the first day of paving shall be tested for dowel location and alignment as soon as the concrete has hardened sufficiently to prevent damage to the surface of the pavement. Additional trial sections will be established when the slipform paving equipment is modified to accommodate a change in paving width or when the slipform paving equipment has been disassembled and/or replaced by another slip form paver.

For all remaining joints, a minimum of 1 out of every 10 shall be tested as soon as the concrete has hardened sufficiently to prevent damage to the surface of the pavement. If the position and alignment of any dowel bar(s) is found to be rejectable, then scanning of adjacent joints on both sides of the joint containing the rejectable dowel bar(s) shall be performed until joints on each side are found with no rejectable dowel bars.

If consistency of the proper dowel bar alignment cannot be established within the first 300 ft (90 m), the Engineer will suspend the paving operation. The Contractor shall determine a course of action approved by the Engineer to correct dowel bars found out of tolerance. Use of the DBI shall cease if satisfactory results, as determined by the Engineer, are not being achieved.

REQUIREMENTS WHEN WORKING NEAR EXISTING PIPELINES

Description: This project involves work above and in close proximity to several existing underground pipelines. The following conditions shall apply to this contract:

1. Illinois one-call (JULIE) and pipeline representatives must be contacted a minimum of 72 hours in advance of any construction activities within 100 feet of their respective facility so that pipeline companies may be present to ensure that there are no conflicts with their pipeline.
2. The contractor is responsible for taking all necessary safety precautions and will be held responsible for any damages caused to the pipeline or property as a result of their work. Exposing the existing pipelines may be required prior to working near pipelines to determine the exact alignment and depth.
3. There shall be no excavation or backfilling within 25 feet of pipelines for any reason without permission from an on-site representative of the pipeline company.
4. All excavation within 10 feet of the pipeline will be performed by hand until the pipeline has been located. Then, if approved by the company on-site representative, mechanical excavation equipment may be used within 5 feet of the pipeline. All excavation or construction activities within 5 feet of the pipeline shall be performed by hand, or as directed by the on-site pipeline company representative.

5. Heavy equipment will not be allowed to operate directly over pipeline except at areas with protective concrete slabs in place or at discretion of pipeline representative. See schedule for Utility Protection Pad. At locations where Utility Protection Pad is not required, the contractor shall place approved crane mats over the pipeline during construction for temporary crossing protection. The contractor may also be required to place crane mats in addition to Utility Protection Pad. A complete listing of anticipated construction vehicular traffic with anticipated maximum loads shall be provided to the pipeline representative at the pre-construction meeting.
6. Heavy equipment shall only be allowed to cross pipelines at locations designated by the pipeline company. Crossing of pipelines shall be made as close as possible to 90 degrees. The contractor shall not be permitted to transport construction materials or equipment longitudinally over the pipelines. No track type construction equipment shall be permitted to pivot or turn directly over the top of the pipeline. When inclement weather exists, provisions must be made to compensate for soil displacement due to subsidence of tires.
7. Vibratory rollers for compacting shall be turned off at pipeline crossings.
8. Unimpeded access to pipelines will be required at all times. Natural drainage will not be impaired. All rock, debris, tree trimmings and unused excavated material will be promptly removed from the site and the site will be left in clean and orderly condition to the satisfaction of the pipeline company on-site representative. Erosion due to excavating or grading activities shall be immediately restored to provide protection to the pipeline facility.
9. No blasting shall occur on or within 100 feet of pipeline facilities unless approved in writing by the pipeline company. If blasting of bedrock is to occur near the pipeline, the pipeline company may require a review of the soil and site conditions. Seismometers may be required to be installed for purposes of measuring peak particle velocities during blasting. Allowance would need to be made in the schedule for time to review the results and make any necessary adjustments.
10. For Pipeline Company contacts, see the Special Provision for "Status of Utilities to be Adjusted".

UTILITY PROTECTION PAD

Description: This work shall consist of the construction of a reinforced concrete protective slab over existing gas pipelines at the locations and details shown on the Plans and as directed by the Engineer. The work shall conform to the applicable portion of Sections 208, 503, 508, and 550 of the Standard Specifications.

Method of Measurement: This work will be measured for payment in square yards, calculated to the exact dimensions of placement of the reinforced concrete slab.

Basis of Payment: This work will be paid for at the contract unit price per square yard for UTILITY PROTECTION PAD, which price shall be payment in full for all labor, equipment and materials required to complete the work as specified herein, including but not limited to the cost of earth and rock excavation, Portland cement concrete, reinforcement bars, protective board, cardboard grade beam forms, underground warning tape and trench backfill.

FAA COORDINATION

Whenever any temporary construction operations or permanent improvements may affect navigable airspace, a Notice of Proposed Construction (Forms 7460-1 and 7460-2) must be filed with the FAA through their website. Determinations of No Hazard to Air Navigation must be received prior to construction. For this contract, the proximity of the Morris Municipal Airport requires filing 2 types of temporary construction activities for temporary obstruction evaluation plus filing for the permanent roadway improvement.

The contractor will have no responsibilities with regard to the permanent roadway improvement filings.

There are no fees associated with filing for evaluations or maintaining determinations.

Initial Determinations of No Hazard have been obtained by the Department to begin construction operations. Based on these determinations, marking and lighting are not necessary for aviation safety, however, lowering crane booms at night is required. The initial determinations for temporary operations are good for 12 month or 18 month periods after which time will need to be extended or resubmitted until the operations have been completed. The contractor is responsible for filing the extensions and obtaining determinations of no hazard. Operations that require determinations are...

- 1 Crane activity at the bridge sites. We assumed an 80' crane height for both bridge sites.
- 2 Dumping activity of tandem trucks. We assumed the highest point on the dump would not exceed 30'. The activity could be anywhere with the ROW from 1.61 miles southwest of the runway (station 6029+00) to 3.02 miles northwest of the runway (station 6309+00).

The Contractor shall comply with all FAA requirements and restrictions that result from FAA determinations. The Contractor is advised that he shall be responsible for all fines for non-compliance with FAA requirements.

The determinations all have an effective period. When the effective period ends it can be extended for one period. **THE CONTRACTOR IS RESPONSIBLE FOR ALL EXTENSION/RE-SUBMITTALS**. Extensions must be E-filed at least 15 days prior to the expiration date. Re-submittals must be E-filed at least 45 days prior to expiration. Extensions and re-submittals should be made through the FAA web site below:

<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>

TEMPORARY INFORMATION SIGN

(Effective May 15, 2013)

Description. This work shall consist of the furnishing, installation, maintenance, and removal of temporary information signs.

Materials. Materials shall be according to the applicable portions of Section 701 of the Standard Specifications and as shown on the plans.

Construction Requirements. The temporary information signs shall be in place at least one week prior to the beginning of construction activities that impact traffic flow and shall remain in place until the completion of the project. If all lanes are open for an extended period of time during the project, such as a winter shutdown, the Contractor shall cover the signs until lane closures resume.

Signs shall be installed according to the requirements of Section 701.

Basis of Payment. This work will be paid for at the contract each price for TEMPORARY INFORMATION SIGN, in place.

WEED CONTROL MOWING STRIP (SPECIAL)

Description. This work consists furnishing labor, equipment, and materials to construct a Portland Cement Concrete weed control mowing strip as detailed in the plans.

It shall be constructed according to applicable portions of Section 606 and Article 606.10 except anchor walls will not be required.

The finished weed control mowing strip shall be flush with the final earth grades and consistent with the cross slopes as detailed in the plans.

Method of Measurement. This work will be measured for payment in place and the area computed in square yards (square meters). Earthwork for the construction of the mow strip will not be measured separately for payment.

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for WEED CONTROL MOWING STRIP (SPECIAL).

BUILDING REMOVAL - CASE IV (NO ASBESTOS) (BDE)

(Effective: September 1, 1990; Revised: April 1, 2010)

BUILDING REMOVAL: This work shall consist of the removal and disposal of two building(s), together with all foundations, retaining walls, and piers, down to a plane 1 ft (300 mm) below the ultimate or existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. Any holes, such as basements, shall be filled with a suitable granular material. The building(s) are identified as follows:

<u>Bldg. No.</u>	<u>Parcel No.</u>	<u>Location</u>	<u>Description</u>
1	3VC0011	IL 47 Station 6058+20 78' LT	Wood frame & masonry 2 story, 2,100 sq. ft. shingle roof, wood siding
2	3VC0008	Granville Road Station 102+64 40' LT	Wood frame shed, metal roof, concrete slab floor, 750 sq. ft.

Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services and the removal of the metering devices that serve the building(s) according to the respective requirements and regulations of the City, County, or utility companies involved. The Contractor shall disconnect and seal, in an approved manner, all service outlets that serve any building(s) he/she is to remove.

Signs: Immediately upon execution of the contract and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:

PROPERTY ACQUIRED FOR
HIGHWAY CONSTRUCTION
TO BE DEMOLISHED BY THE

VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing. The Contractor shall not paint signs nor start demolition of any building(s) prior to the time that the State becomes the owner of the respective building(s).

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein. The lump sum unit price(s) for this work shall represent the cost of demolition. Any salvage value shall be reflected in the contract unit price for this item.

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least ten days prior to commencement of any demolition activity.

Asbestos Demolition/Renovation Coordinator
Illinois Environmental Protection Agency
Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276
(217)785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittals:

- A. All submittals and notices shall be made to the Engineer except where otherwise specified herein.
- B. Prior to starting work, the Contractor shall submit proof of written notification and compliance with the "Notifications" paragraph.

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 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 assessment (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 assessment (PESA) site number) for special or hazardous waste disposal, and
- (f) Landfill tickets (identified by the preliminary environmental site assessment (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.

- Station 6103+30 to Station 6104+40 0 to 80 feet RT (Saratoga Township Garage & Townhall, PESA Site 2561-62, 9080 IL 47). 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: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Carbazole, Dibenzo(a,h)Anthracene, and Indeno91,2,3-cd)Pyrene.
- Station 6030+40 to Station 6031+40 0 to 100 feet LT (Warehouses, PESA Site 2561-71, 3800 IL 47). 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.

- Station 6035+50 to Station 6037+50 0 to 100 feet LT (Commercial Building, PESA Site 2561-69, 4000-4004 IL 47). 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 6039+50 to Station 6043+00 0 to 80 feet LT (Saratoga School, PESA Site 2561-67, 4040 IL 47). 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: Benzo(a)Pyrene and Manganese.
- Station 6047+75 to Station 6049+50 0 to 80 feet LT (Saratoga School, PESA Site 2561-67, 4040 IL 47). 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 6046+50 to Station 6048+00 0 to 100 feet RT (Farmstead, PESA Site 2561-68, 8070 IL 47). 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 6082+00 to Station 6083+20 0 to 100 feet RT (Grundy County Fairgrounds, PESA Site 2561-64, 8890 IL 47). 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 6117+80 to Station 6120+10 0 to 140 feet RT (Vacant Lot, PESA Site 2561-59, 9510 IL 47). 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 6122+00 to Station 6125+40 0 to 140 feet RT (Vacant Lot, PESA Site 2561-59, 9510 IL 47). 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 6139+00 to Station 6141+20 0 to 90 feet RT (Morris Airport, PESA Site 2561-56, 9980 IL 47). 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 6153+00 to Station 6149+40 0 to 110 feet RT (Morris Airport, PESA Site 2561-56, 9980 IL 47). 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 6178+70 to Station 6182+25 0 to 200 feet RT (Trailer, PESA Site 2561-53, 10600 Block of IL 47). 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 6184+40 to Station 1685+20 0 to 140 feet LT (Farmstead, PESA Site 2561-52, 10625 IL 47). 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 6184+40 to Station 1685+20 0 to 90 feet RT (Farmstead, PESA Site 2561-52, 10625 IL 47). 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 6214+60 to Station 6210+00 0 to 120 feet RT (Farmstead, PESA Site 2561-46, 11230 IL 47). 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 6236+00 to Station 6237+80 0 to 120 feet RT (Farmstead, PESA Site 2561-44, 11610 IL 47). 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: Benzo(a)Pyrene and Manganese.

- Station 6249+00 to Station 6253+80 0 to 130 feet RT (Hogan Walker Services, PESA Site 2561-43, 11900 IL 47). 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 6253+80 to Station 6257+50 0 to 150 feet RT (Residences, PESA Site 2561-41, 11930 and 11960 IL 47). 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 101+20 to Station 102+00 (Granville Road) 0 to 60 feet LT (Farmstead, PESA Site 2561-68, 8070 IL 47). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 6147+00 to Station 6149+40 0 to 100 feet RT (Morris Airport, PESA Site 2561-56, 9980 IL 47). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 6098+00 to Station 6098+50 0 to 80 feet LT/RT (Agricultural Fields, PESA Site 2561-1, 9400 Block of IL 47). This material meets the criteria of Article 669.09(c) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 6141+60 to Station 6144+50 0 to 80 feet LT (Farmstead, PESA Site 2561-58, 9855 IL 47). This material meets the criteria of Article 669.09(c) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

Backfill pugs shall be place within the following locations.

- Station 6141+60 to Station 6144+50 0 to 80 feet LT (Farmstead, PESA Site 2561-58, 9855 IL 47). Contaminants of concern sampling parameters: Manganese.

STEEL CASINGS, 18"

The steel casing pipe shall be welded steel pipe having a minimum wall thickness of 0.50" and shall be fabricated from steel having a minimum yield strength of 35,000 psi. Pipe shall be bituminous coated in conformance with AASHTO M190.0.

The casing shall be constructed with a minimum cover over the top of the pipe of 4'.

This work shall be measured in place along the top of the casing pipe and paid for at the contract price per foot for STEEL CASINGS, 18".

TEMPORARY SOIL RETENTION SYSTEM

Effective: December 30, 2002

Revised : May 11, 2009

Description. This work shall consist of designing, furnishing, installing, adjusting for stage construction when required and subsequent removal of the temporary soil retention system according to the dimensions and details shown on the plans and in the approved design submittal.

General. The temporary soil retention system shall be designed by the Contractor as a minimum, to retain the exposed surface area specified in the plans or as directed by the Engineer.

The design calculations and details for the temporary soil retention system proposed by the Contractor shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Construction. The Contractor shall verify locations of all underground utilities before installing any of the soil retention system components or commencing any excavation. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The soil retention system shall be installed according to the Contractor's approved design, or as directed by the Engineer, prior to commencing any related excavation. If unable to install the temporary soil retention system as specified in the approved design, the Contractor shall have the adequacy of the design re-evaluated. Any reevaluation shall be submitted to the Engineer for approval prior to commencing the excavation adjacent to the area in question. The Contractor shall not excavate below the maximum excavation line shown in the approved design without the prior permission of the Engineer. The temporary soil retention system shall remain in place until the Engineer determines it is no longer required.

The temporary soil retention system shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the temporary soil retention system leaving the remainder in place. The remaining temporary soil retention system shall be removed to a depth which will not interfere with the new construction, and as a minimum, to a depth of 12 in. (300 mm) below the finished grade, or as directed by the Engineer. Removed system components shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where its presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven or installed through or around, with normal driving or installation procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary soil retention system furnished and installed according to the Contractor's approved design or as directed by the Engineer will be measured for payment in place, in square feet (square meters). The area measured shall be the vertical exposed surface area envelope of the excavation supported by temporary soil retention system. Portions of the temporary soil retention system left in place for reuse in later stages of construction shall only be measured for payment once.

Any temporary soil retention system installed beyond those dimensions shown on the contract plans or the approved contractor's design without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's own expense.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for TEMPORARY SOIL RETENTION SYSTEM.

Payment for any excavation, related solely to the installation and removal of the temporary soil retention system and/or its components, shall not be paid for separately but shall be included in the unit bid price for TEMPORARY SOIL RETENTION SYSTEM. Other excavation, performed in conjunction with this work, will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

PIPE UNDERDRAINS FOR STRUCTURES

Effective: May 17, 2000

Revised: January 22, 2010

Description. This work shall consist of furnishing and installing a pipe underdrain system as shown on the plans, as specified herein, and as directed by the Engineer.

Materials. Materials shall meet the requirements as set forth below:

The perforated pipe underdrain shall be according to Article 601.02 of the Standard Specifications. Outlet pipes or pipes connecting to a separate storm sewer system shall not be perforated.

The drainage aggregate shall be a combination of one or more of the following gradations, FA1, FA2, CA5, CA7, CA8, CA11, or CA13 thru 16, according to Sections 1003 and 1004 of the Standard Specifications.

The fabric surrounding the drainage aggregate shall be Geotechnical Fabric for French Drains according to Article 1080.05 of the Standard Specifications.

Construction Requirements. All work shall be according to the applicable requirements of Section 601 of the Standard Specifications except as modified below.

The pipe underdrains shall consist of a perforated pipe drain situated at the bottom of an area of drainage aggregate wrapped completely in geotechnical fabric and shall be installed to the lines and gradients as shown on the plans.

Method of Measurement. Pipe Underdrains for Structures shall be measured for payment in feet (meters), in place. Measurement shall be along the centerline of the pipe underdrains. All connectors, outlet pipes, elbows, and all other miscellaneous items shall be included in the measurement. Concrete headwalls shall be included in the cost of Pipe Underdrains for Structures, but shall not be included in the measurement for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for PIPE UNDERDRAINS FOR STRUCTURES of the diameter specified. Furnishing and installation of the drainage aggregate, geotechnical fabric, forming holes in structural elements and any excavation required, will not be paid for separately, but shall be included in the cost of the pipe underdrains for structures.

SLIPFORM PARAPET

Effective: June 1, 2007

Revised: August 17, 2012

The following shall be added to the end of Article 503.16(b) of the Standard Specifications.

- (3) Slipforming parapets. Unless otherwise prohibited on the plans, at the option of the Contractor, concrete parapets on bridge decks may be constructed by slipforming in lieu of the conventional forming methods. The slipform machine shall have automatic horizontal and vertical grade control and be approved by the Engineer.

If the Contractor wishes to use the slipform parapet option for 42 inch (1.067 m) tall parapets he/she shall construct a test section in a temporary location to demonstrate his/her ability to construct the parapets without defect. The test section shall be constructed under similar anticipated weather conditions, using the same means and methods, equipment, operator, concrete plant, concrete mix design, and slump as proposed for the permanent slipform parapets.

The test section shall be at least 50 feet (15 meters) in length and shall be of the same cross section shown on the plans. The contractor shall place all of the reinforcement embedded in the parapet shown on the plans. Upon completion of the test section, the Contractor shall saw cut the test section into 2 foot segments and separate the segments for inspection by the Engineer.

The test section shall demonstrate to the satisfaction of the Engineer that the Contractor can slipform the parapets on this project without defects. The acceptance of the test section does not constitute acceptance of the slipform parapets in place.

The concrete mix design may combine two or more coarse aggregate sizes, consisting of CA-7, CA-11, CA-13, CA-14, and CA-16, provided a CA-7 or CA-11 is included in the blend in a proportion approved by the Engineer.

The slipform machine speed shall not exceed 3 ft (0.9 m) per minute. Any section of parapet placed with the slipform machine moving in excess of the maximum allowed speed will be rejected. Any time the speed of the machine drops below 0.5 ft (150 mm) per minute will be considered a stoppage of the slipforming operation, portions of parapet placed with three or more intermittent stoppages within any 15 ft (4.6 m) length will be rejected. The contractor shall schedule concrete delivery to maintain a uniform delivery rate of concrete into the slipform machine. If delivery of concrete from the truck into the slipforming machine is interrupted by more than 15 minutes, the portion of the wall within the limits of the slipform machine will be rejected. Any portion of the parapet where the slipforming operation is interrupted or stopped within the 15 minute window may be subject to coring to verify acceptance.

If the Contractor elects to slipform, the parapet cross-sectional area and reinforcement bar clearances shall be revised according to the details for the Concrete Parapet Slipforming Option. In addition, if embedded conduit(s) are detailed, then the contractor shall utilize the alternate reinforcement as detail.

The Contractor may propose supplemental reinforcement for stiffening and/or for conduit support subject to the approval of the Engineer.

The use of cast-in-place anchorage devices for attaching appurtenances and/or railings to the parapets will not be allowed in conjunction with slipforming of parapets. Alternates means for making these attachments shall be as detailed on the plans or as approved by the Engineer.

All reinforcement bar intersections within the parapet cross section shall be 100 percent tied to maintain rigidity during concrete placement. At pre-planned sawcut joints in the parapet, Glass Fiber Reinforced Polymer (GFRP) reinforcement shall be used to maintain the rigidity of the reinforcement cage across the proposed joints as detail for the Concrete Parapet Slipforming Option.

Glass Fiber Reinforced Polymer (GFRP) reinforcement shall be subject to approval by the Engineer. Other non-ferrous reinforcement may be proposed for use but shall be subject to approval by the Engineer.

The contractor may use additional stiffening reinforcement bars to prevent movement of the reinforcement cage subject to approval by the Engineer. Clearances for these bars shall be the same as shown for the required bars and these bars shall be epoxy coated. If the additional reinforcement is used, it shall be at no additional cost to the Department.

For projects with plan details specifying parapet joints spaced greater than 20 ft (6 m) apart, additional sawcut joints, spaced between 10 ft (3 m) and 20 ft (6 m), shall be placed as directed by the Engineer. The horizontal reinforcement extending through the proposed joints shall be precut to provide a minimum of 4 in. (100 mm) gap, centered over the joint, between rebar ends. The ends of the reinforcement shall be repaired according to Article 508.05.

After the slipform machine has been set to proper grade and prior to concrete placement, the clearance between the slipform machine inside faces and reinforcement bars shall be checked during a dry run by the Contractor in the presence of the Engineer. The dry run shall not begin until the entire reinforcing cage has been tied and the Engineer has verified and approved the placement and tying of the reinforcing bars. Any reinforcement bars found to be out of place by more than ½ in. (13 mm), or any dimensions between bars differing from the plans by more than ½ in. (13 mm) shall be re-tied to the plan dimensions.

During the dry run and in the presence of the Engineer, the Contractor shall check the clearance of the reinforcement bars from the inside faces of the slipform mold. In all locations, the Contractor shall ensure the reinforcement bars have the minimum cover distance shown on the plans. This dry run check shall be made for the full distance that is anticipated to be placed in the subsequent pour. Reinforcement bars found to have less than the minimum clearance shall be adjusted and the dry run will be performed again, at least in any locations that have been readjusted.

For parapets adjacent to the watertable, the contractor shall, for the duration of the construction and curing of the parapet, provide and maintain an inspection platform along the back face of the parapet. The inspection platform shall be rigidly attached to the bridge superstructure and be of such design to allow ready movement of inspection personnel along the entire length of the bridge.

The aluminum cracker plates as detailed in the plans shall be securely tied in place and shall be coated or otherwise treated to minimize their potential reaction with wet concrete. In lieu of chamfer strips at horizontal and vertical edges, radii may be used. Prior to slipforming, the Contractor shall verify proper operation of the vibrators using a mechanical measuring device subject to approval by the Engineer.

The top portion of the joint shall be sawcut as shown in Detail for the Concrete Parapet Slipforming Option. Sawing of the joints shall commence as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling. All joints shall be sawed to the full thickness before uncontrolled shrinkage cracking takes place but no later than 8 hours after concrete placement. The sawcut shall be approximately 3/8 in. (10 mm) wide and shall be performed with a power circular concrete saw. The joints shall be sealed with an approved polyurethane sealant, conforming to ASTM C 920, Type S, Grade NS, Class 25, Use T, to a minimum depth of 1/2 in. (12 mm), with surface preparation and installation according to the manufacturer's written instructions. Cork, hemp or other compressible material may be used as a backer. The sawcut will not require chamfered edges.

Ends of the parapet shall be formed and the forms securely braced. When slipforming of parapets with cross sectional discontinuities such as light standards, junction boxes or other embedded appurtenances except for name plates, is allowed, the parapet shall be formed for a minimum distance of 4 ft (1.2 m) on each side of the discontinuity.

For acceptance and rejection purposes a parapet section shall be defined as the length of parapet between adjacent vertical parapet joints.

The maximum variance of actual to proposed longitudinal alignment shall not exceed $\pm 3/4$ in. (20 mm) with no more than 1/4 inch in 10 ft (6 mm in 3 m). Notwithstanding this tolerance, abrupt variance in actual alignment of 1/2 inch in 10 ft (13 mm in 3 m) will be cause for rejection of the parapet section.

In addition, all surfaces shall be checked with a 10 ft (3 m) straight edge furnished and used by the Contractor as the concrete is extruded from the slipform mold. Continued variations in the barrier surface exceeding 1/4 inch in 10 ft (6 mm in 3 m) will not be permitted and remedial action shall immediately be taken to correct the problem.

The use of equipment or methods which result in dimensions outside the tolerance limits shall be discontinued. Parapet sections having dimensions outside the tolerance limits will be rejected.

Any visible indication that less than specified cover of concrete over the reinforcing bars has been obtained, or of any cracking, tearing or honeycombing of the plastic concrete, or any location showing diagonal or horizontal cracking will be cause for rejection of the parapet section in which they are found.

The vertical surfaces at the base of the barrier within 3 in. (75 mm) of the deck surface shall be trowelled true after passage of the slipform machine. Any deformations or bulges remaining after the initial set shall be removed by grinding after the concrete has hardened. Hand finishing of minor sporadic surface defects may be allowed at the discretion of the Engineer.

Slipformed parapets shall be cured according to either Article 1020.13(a)(3) or Article 1020.13(a)(5). For either method, the concrete surface shall be covered within 30 minutes after it has been finished. In addition, a soaker hose shall be placed on the top surface of the parapet, and the curing material kept wet with a continuous supply of water for the entire curing period. The cotton mats or burlap covering shall be held in place with brackets or other method approved by the Engineer. The Contractor shall have the option to substitute linseed oil emulsion for protective coat and delay the start of wet curing during the period from April 16 through October 31. The linseed oil emulsion shall be applied according to Articles 1020.13 Notes-General 8/ and 1020.13(a)(4). The delay for wet curing shall not exceed 3 hours after application of the linseed oil emulsion.

A maximum of three random 4 in. (100 mm) diameter cores per 100 ft (30 m) of parapet shall be taken as directed by the Engineer, but no less than three random cores shall be taken for each parapet pour. Unless otherwise directed by the Engineer, coring shall be accomplished within 48 hours following each parapet pour. Separate parapets poured on the same date shall be considered separate pours. Random cores will not be measured for payment.

The Engineer will mark additional locations for cores where, in the sole opinion of the Engineer, the quality of the slipformed parapet is suspect.

Any cores showing voids of any size adjacent to the reinforcement bars, or showing voids not adjacent to reinforcement bars of 1/4 square inch (160 square millimeters) in area or more, or showing signs of segregation, or showing signs of cracking shall be considered failures and the parapet section from which it was taken will be rejected.

Rejected parapet sections shall be removed and replaced for the full depth cross-section of the parapet. The minimum length of parapet removed and replaced shall be 3 ft (1 m). Additional cores may be required to determine the longitudinal extent of removal and replacement if it can not be determined and agreed upon by other means (i.e. visual, sounding, non-destructive testing, etc.).

Any parapet section with more than one half of its length rejected or with remaining segments less than 10 ft (3 m) in length shall be removed and replaced in its entirety.

If reinforcement bars are damaged during the removal and replacement, additional removal and replacement shall be done, as necessary, to ensure minimum splice length of replacement bars. Any damage to epoxy coating of bars shall be repaired according to Article 508.05.

All core holes will be filled with a non-shrink grout meeting the requirements of Section 1024.

Basis of Payment. When the contractor, at his/her option, constructs the parapet using slipforming methods, no adjustment in the quantities for Concrete Superstructures and Reinforcement Bars, Epoxy Coated to accommodate this option will be allowed. Compensation under the contract bid items for Concrete Superstructures and Reinforcement Bars, Epoxy Coated shall cover the cost of all work required for the construction of the parapet and any test section(s) required, and for any additional costs of work or materials associated with slipforming methods.

SEGMENTAL CONCRETE BLOCK WALL

Effective: January 7, 1999

Revised: October 30, 2012

Description. This work shall consist of furnishing the design computations, shop plans, materials, equipment and labor to construct a Segmental Concrete Block Retaining Wall to the limits shown on the plans.

General. The wall shall consist of a leveling pad, precast concrete blocks (either dry-cast or wet cast), select fill and, if required by the design, soil reinforcement. The wall shall be designed and constructed according to the lines, grades, and dimensions shown on the contract plans and approved shop plans.

Submittals. The wall supplier shall submit design computations and shop plans to the Engineer according to Article 1042.03(b) of the Standard Specifications. No work or ordering of materials for the structure shall be done by the Contractor until the submittal has been approved in writing by the Engineer. The shop plans shall be sealed by an Illinois Licensed Structural Engineer and shall include all details, dimensions, quantities, and cross sections necessary to construct the wall and shall include, but not be limited to, the following items:

- (a) Plan, elevation, and cross section sheet(s) for each wall showing the following:
 - (1) A plan view of the wall indicating the offsets from the construction centerline to the first course of blocks at all changes in horizontal alignment. These shall be calculated using the offsets to the front face of the block shown on the contract plans and the suppliers proposed wall batter. The plan view shall indicate bottom (and top course of block when battered), the excavation and select fill limits as well as any soil reinforcing required by the design. The centerline of any drainage structure or pipe behind or passing through/under the wall shall also be shown.

- (2) An elevation view of the wall, indicating the elevation and all steps in the top course of blocks along the length of the wall. The top of these blocks shall be at or above the theoretical top of block line shown on the contract plans. This view shall also show the steps and proposed top of leveling pad elevations as well as the finished grade line at the wall face specified on the contract plans. These leveling pad elevations shall be located at or below the theoretical top of leveling line shown on the contract plans. The location, size, and length of any soil reinforcing connected to the blocks shall be indicated.
 - (3) Typical cross section(s) showing the limits of the select fill, soil reinforcement if used in the design. The right-of-way limits shall be indicated as well as the proposed excavation, cut slopes, and the elevation relationship between existing ground conditions and proposed grades.
 - (4) All general notes required for constructing the wall.
- (b) All details for the leveling pads, including the steps, shall be shown. The theoretical top of the leveling pad shall either be below the anticipated frost depth or 1.5 ft. (450 mm) below the finished grade line at the wall face, whichever is greater; unless otherwise shown on the plans. The minimum leveling pad thickness shall be 6 in. (152 mm)
 - (c) Cap blocks shall be used to cover the top of the standard block units. The top course of blocks and cap blocks shall be stepped to satisfy the top of block line shown on the contract plans.
 - (d) All details of the block and/or soil reinforcement placement around all appurtenances located behind, on top of, or passing through the wall shall be clearly indicated. Any modifications to the design of these appurtenances to accommodate a particular design arrangement shall also be submitted.
 - (e) All details of the blocks, including color and texture shall be shown. The exterior face shall preferably be straight, textured with a "split rock face" pattern, and dark gray in color unless otherwise stated on the plans.
 - (f) All block types (standard, cap, corner, and radius turning blocks) shall be detailed showing all dimensions.
 - (g) All blocks shall have alignment/connection devices such as shear keys, leading/trailing lips, or pins. The details for the connection devices between adjacent blocks and the block to soil reinforcement shall be shown. The block set back or face batter shall be limited to 20 degrees from vertical, unless otherwise shown by the plans.

Materials. The materials shall meet the following requirements:

- (a) Dry-Cast Concrete Block: Dry-cast concrete block proposed for use shall be pre-cast and produced according Article 1042.02 and the requirements of ASTM C1372 except as follows:

1. Fly ash shall be according to Articles 1010.01 and 1010.02(b).
 2. Ground granulated blast-furnace slag shall be according to Articles 1010.01 and 1010.05.
 3. Aggregate shall be according to Articles 1003.02 and 1004.02, with the exception of gradation.
 4. Water shall be according to Section 1002.
 5. Testing for freeze-thaw durability will not be required. However, unsatisfactory field performance as determined by the Department will be cause to prohibit the use of the block on Department projects.
- (b) Wet-cast Concrete Block: Wet-cast concrete block proposed for use shall be pre-cast and produced according to Section 1020 and Article 1042.02. The concrete shall be Class PC with a minimum compressive strength of at least 3000 psi (31 MPa) at 28 days.
- (c) Select fill: The select fill, defined as the material placed in the reinforced volume behind the wall, shall be according to Sections 1003 and 1004 of the Standard Specifications and the following:
- (1) Select Fill Gradation. Either a coarse aggregate or a fine aggregate may be used. For coarse aggregate, gradations CA 6 thru CA 16 may be used. For fine aggregate, gradations FA 1, FA 2, or FA 20 may be used.
 - (2) Select Fill Quality. The coarse or fine aggregate shall have a maximum sodium sulfate (Na_2SO_4) loss of 15 percent according to Illinois Modified AASHTO T 104.
 - (3) Select Fill Internal Friction Angle. The effective internal friction angle for the coarse or fine aggregate shall be a minimum 34 degrees according to AASHTO T 236 on samples compacted to 95 percent density according to Illinois Modified AASHTO T 99. The AASHTO T 296 test with pore pressure measurement may be used in lieu of AASHTO T 236. If the vendor's design uses a friction angle higher than 34 degrees, as indicated on the approved shop drawings, this higher value shall be taken as the minimum required.
 - (4) Select Fill and Geosynthetic Reinforcing. When geosynthetic reinforcing is used, the select fill pH shall be 4.5 to 9.0 according to Illinois Modified AASHTO T 289.
 - (5) Test Frequency. Prior to start of construction, the Contractor shall provide internal friction angle and pH test results to show the select fill material meets the specification requirements. However, the pH will be required only when geosynthetic reinforcing is used. All test results shall not be older than 12 months. In addition, a sample of select fill material will be obtained for testing and approval by the Department. Thereafter, the minimum frequency of sampling and testing at the jobsite will be one per 40,000 tons (36,300 metric tons) of select fill material. Testing to verify the internal friction angle will only be required when the wall design utilizes a minimum effective internal friction angle greater than 34 degrees, or when crushed coarse aggregate is not used.

When a fine aggregate is selected, the rear of all block joints shall be covered by a non-woven needle punch geotextile filter material according to Article 1080.05 of the Standard Specifications and shall have a minimum permeability according to ASTM D4491 of 0.008 cm/sec. All fabric overlaps shall be 6 in. (150 mm) and non-sewn. As an alternative to the geotextile, a coarse aggregate shall be placed against the back face of the blocks to create a minimum 12 in. (300 mm) wide continuous gradation filter to prevent the select fill material from passing through the block joints.

- (d) Leveling pad: The material shall be either Class SI concrete according to Article 1020.04 or compacted coarse aggregate according to Articles 1004.04, (a) and (b). The compacted coarse aggregate gradation shall be CA 6 or CA 10.
- (e) Soil Reinforcement: If soil reinforcement is required by the approved design, the Contractor shall submit a manufacturer's certification for the soil reinforcement properties which equals or exceeds those required in the design computations. The soil reinforcement shall be manufactured from high density polyethylene (HDPE) uniaxial or polypropylene biaxial resins or high tenacity polyester fibers with a PVC coating, stored between -20 and 140° F (-29 and 60° C). The following standards shall be used in determining and demonstrating the soil reinforcement capacities:

ASTM D638 Test Method for Tensile Properties of Plastic

ASTM D1248 Specification for Polyethylene Plastics Molding and Extrusion Materials

ASTM D4218 Test Method for Carbon Black Content in Polyethylene Compounds

ASTM D5262 Test Method for Evaluating the Unconfined Tension Creep Behavior of Geosynthetics

GG1-Standard Test Method for Geogrid Rib Tensile Strength

GG2-Standard Test Method for Geogrid Junction Strength

GG4-Standard Practice for Determination of the Long Term Design Strength of Geogrid

GG5-Standard Practice for Evaluating Geogrid Pullout Behavior

Design Criteria. The design shall be according to AASHTO Specifications and commentaries for Earth Retaining Walls or FHWA Publication No. HI-95-038, SA-96-071 and SA-96-072. The wall supplier shall be responsible for all internal stability aspects of the wall design.

Internal stability design shall insure that adequate factors of safety against overturning and sliding are present at each level of block. If required by design, soil reinforcement shall be utilized and the loading at the block/soil reinforcement connection as well as the failure surface must be indicated. The calculations to determine the allowable load of the soil reinforcement and the factor of safety against pullout shall also be included. The analysis of settlement, bearing capacity, and overall slope stability are the responsibility of the Department.

External loads such as those applied through structure foundations, from traffic or railroads, slope surcharge etc., shall be accounted for in the internal stability design. The presence of all appurtenances behind, in front of, mounted upon, or passing through the wall volume such as drainage structures, utilities, structure foundation elements, or other items shall be accounted for in the internal stability design of the wall.

Construction Requirements. The Contractor shall obtain technical assistance from the supplier during wall erection to demonstrate proper construction procedures and shall include all costs related to this technical assistance in the unit price bid for this item.

The foundation material for the leveling pad and select fill volume shall be graded to the design elevation and compacted according to Article 205.05, except the minimum required compaction shall be 95 percent of the standard laboratory density. The Engineer will perform one density test per 1500 ft (450 m) of the entire length of foundation material through both cut and fill areas. Any foundation soils found to be unsuitable shall be removed and replaced as directed by the Engineer and shall be paid for according to Article 109.04.

The select fill lift placement shall closely follow the erection of each course of blocks. All aggregate shall be swept from the top of the block prior to placing the next block lift. If soil reinforcement is used, the select fill material shall be leveled and compacted before placing and attaching the soil reinforcement to the blocks. The soil reinforcement shall be pulled taut, staked in place, and select fill placed from the rear face of the blocks outward. The lift thickness shall be the lesser of 10 in. (255 mm) loose measurement or the proposed block height.

The select fill shall be compacted according to Article 205.05, except the minimum required compaction shall be 95 percent of the standard laboratory density. Compaction shall be achieved using a minimum of 3 passes of a lightweight mechanical tamper, roller, or vibratory system. The Engineer will perform one density test per 5000 cu yd (3800 cu m) and not less than one test per 2 ft (0.6m) of lift. The top 12 in. (300 mm) of backfill shall be a cohesive, impervious material capable of supporting vegetation, unless other details are specified on the plans.

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

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

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

BOND BREAKER FOR PRESTRESSED CONCRETE BULB-T BEAMS

Effective: April 19, 2012

Description. This work shall consist of furnishing and applying a bond breaker to the top flange of prestressed concrete bulb T-beams as detailed on the contract plans. After the beams have been erected at the job site and just prior to installation of the bridge deck reinforcement, portions of the top surface of the beams identified on the plans shall have one of the following bond breakers applied:

1. Two coats of Type I, II or III membrane curing compound according to Article 1022.01 and applied with a roller.
2. Two coats of protective coat according to Article 1023.01 and applied with a roller.
3. Bonded Roofing felt - 30 lbs. (13.6 kg)

The concrete surface shall be clean of loose debris and dry for a minimum of 2 hours prior to application of the bond breaking material. The temperature of the concrete and air shall be 40°F (4°C) or higher at the time of application.

For systems requiring multiple coats, the second coat may follow immediately after the first coat. Also, the material shall not be exposed to rain, snow, or foot traffic for a minimum period of 4 hours after application.

Damaged or compromised bond breaker, as determine by the Engineer, shall be repaired.

Basis of Payment. This work will not be measured for payment but shall be considered included in the cost for Concrete Superstructure.

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

Delete the last paragraphs of 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 title of 1040.07 to Geocomposite Wall Drains and Strip Drains.

BRIDGE RELIEF JOINT SEALER (BDE)

Effective: January 1, 2012

Revised: August 1, 2012

Add the following to the end of the second paragraph of Article 503.19 of the Standard Specifications:

“After the surface is clean and before applying protective coat, relief joints being sealed according to Section 588 shall be covered with a masking tape to prevent protective coat from contacting the vertical faces of the joint.”

Revise Section 588 of the Standard Specifications to read:

“SECTION 588. BRIDGE RELIEF JOINT SEALER

588.01 Description. This work shall consist of sealing transverse relief joints in the bridge decks.

588.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Hot-Poured Joint Sealer	1050.02

CONSTRUCTION REQUIREMENTS

588.03 General. The relief joint opening shall be formed to produce a reservoir for the sealing material and shall be 1/4 in. (6 mm) wide by 3/4 in. (20 mm) deep. For concrete surfaces the relief joint shall be formed into the concrete. For HMA surfaces the relief joint shall be sawed into the surface. Immediately prior to pouring the sealer the joint opening shall be cleaned with compressed air so that it is free of all foreign and loose material and in a dry condition. The bridge deck relief joints to be sealed shall be free of cracked or spalled areas. Any cracked areas shall be chipped back to sound material before placing joint sealer.

The hot-poured joint sealer shall not be placed when the air temperature in the shade is below 40 °F (5 °C) or when foggy or rainy, unless approved by the Engineer.

Hot-poured joint sealer shall be stirred during heating to prevent localized overheating. The sealing material shall be applied to each joint opening according to the details shown on the plans or as directed by the Engineer, without spilling on the exposed deck surfaces.

All bridge relief joints shall be filled with sufficient sealer compound so that the top of the seal is flush with the top of the finished deck or wearing surface.

Any sealing compound that is not bonded to the relief joint wall or face 24 hours after placing shall be removed and the joint shall be cleaned and resealed.

588.04 Basis of Payment. This work will not be paid for as a separate item, but shall be considered as included in the unit price bid for the major item of construction involved.”

Revise Section 589 of the Standard Specifications to read:

“SECTION 589. Reserved”

BUILDING REMOVAL - CASE IV (NO ASBESTOS) (BDE)

Effective: September 1, 1990

Revised: April 1, 2010

BUILDING REMOVAL: This work shall consist of the removal and disposal of _____ building(s), together with all foundations, retaining walls, and piers, down to a plane 1 ft (300 mm) below the ultimate or existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. Any holes, such as basements, shall be filled with a suitable granular material. The building(s) are identified as follows:

<u>Bldg. No.</u>	<u>Parcel No.</u>	<u>Location</u>	<u>Description</u>
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Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services and the removal of the metering devices that serve the building(s) according to the respective requirements and regulations of the City, County, or utility companies involved. The Contractor shall disconnect and seal, in an approved manner, all service outlets that serve any building(s) he/she is to remove.

Signs: Immediately upon execution of the contract and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:

PROPERTY ACQUIRED FOR
HIGHWAY CONSTRUCTION
TO BE DEMOLISHED BY THE

VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing. The Contractor shall not paint signs nor start demolition of any building(s) prior to the time that the State becomes the owner of the respective building(s).

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein. The lump sum unit price(s) for this work shall represent the cost of demolition. Any salvage value shall be reflected in the contract unit price for this item.

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least ten days prior to commencement of any demolition activity.

Asbestos Demolition/Renovation Coordinator
Illinois Environmental Protection Agency
Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276
(217)785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittals:

- A. All submittals and notices shall be made to the Engineer except where otherwise specified herein.
- B. Prior to starting work, the Contractor shall submit proof of written notification and compliance with the "Notifications" paragraph.

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 μ 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 \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.

CONCRETE MIX DESIGN – DEPARTMENT PROVIDED (BDE)

Effective: January 1, 2012

For the “Portland Cement Concrete (BDE)” special provision included in this project, specifically Article 1020.05(a), the Contractor has the option to request the Engineer determine mix design material proportions for Class PV, PP, RR, BS, DS, SC, and SI concrete. A single mix design for each class of concrete will be provided. Acceptance by the Contractor to use the mix design developed by the Engineer shall not relieve the Contractor from meeting specification requirements.

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 **13.00%** 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.

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 it receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
 - (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
 - (2) 100 percent goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
 - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. 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.

DRAIN PIPE, TILE, DRAINAGE MAT, AND WALL DRAIN (BDE)

Effective: January 1, 2013

Add the following to Article 101.01 of the Standard Specifications.

"NTPEP National Transportation Product Evaluation Program"

Revise Article 1040.03(f) of the Standard Specifications to read:

"(f) Profile Wall Pipe-304. The manufacturer shall be listed as compliant through the NTPEP program and the pipe shall be according to AASHTO M 304."

Revise the first sentence of the first paragraph of Article 1040.04(a) of the Standard Specifications to read:

"The manufacturer shall be listed as compliant through the NTPEP program and the pipe shall be according to AASHTO M 252 (nominal size – 3 to 10 in. (75 to 250 mm))."

Revise Article 1040.04(b) of the Standard Specifications to read:

"(b) Corrugated PE Pipe with a Smooth Interior. The manufacturer shall be listed as compliant through the NTPEP program and the pipe shall be according to AASHTO M 294 (nominal size – 12 to 48 in. (300 to 1200 mm)). The pipe shall be Type S or D."

FRICITION AGGREGATE (BDE)

Effective: January 1, 2011

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

- “ (4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.
- a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).
 - b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase.”

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

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination:</u> Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA All Other	Stabilized Subbase Shoulders or	<u>Allowed Alone or in Combination:</u> Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{1/} Crushed Concrete

Use	Mixture	Aggregates Allowed
HMA High ESAL Low ESAL	Binder IL-25.0, IL-19.0, or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-12.5,IL-9.5, or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}
HMA High ESAL	D Surface and Leveling Binder IL-12.5 or IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) ^{5/} Crushed Steel Slag ^{4/ 5/} Crushed Concrete ^{3/}
		<u>Other Combinations Allowed:</u>
		<i>Up to...</i> <i>With...</i>
		25% Limestone Dolomite
		50% Limestone Any Mixture D aggregate other than Dolomite
		75% Limestone Crushed Slag (ACBF) ^{5/} or Crushed Sandstone

Use	Mixture	Aggregates Allowed	
HMA High ESAL	E Surface IL-12.5 or IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) ^{5/} Crushed Steel Slag ^{5/} Crushed Concrete ^{3/} No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Dolomite ^{2/}	Any Mixture E aggregate
		75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF) ^{5/} , Crushed Steel Slag ^{5/} , or Crystalline Crushed Stone
75% Crushed Gravel or Crushed Concrete ^{3/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF) ^{5/} , or Crushed Steel Slag ^{5/}		
HMA High ESAL	F Surface IL-12.5 or IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination:</u> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) ^{5/} Crushed Steel Slag ^{5/} No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel, Crushed Concrete ^{3/} , or Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF) ^{5/} , Crushed Steel Slag ^{5/} , or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When either slag is used, the blend percentages listed shall be by volume.”

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.”

HIGH TENSION CABLE MEDIAN BARRIER (BDE)

Effective: January 1, 2007

Revised: January 1, 2013

Description. This work shall consist of furnishing and installing a high tension cable (HTC) median barrier with terminals/end anchorages.

Materials. Materials shall be according to the following.

Item	Article/Section
(a) Reinforcement Bars	1006.10(a)
(b) Portland Cement Concrete (Note 1)	1020
(c) Wire Rope (Cable) and Fittings (Note 2)	

Note 1. The portland cement concrete shall be Class SI.

Note 2. The wire rope (cable) shall be according to AASHTO M 30, Type 1 with Class A coating, of the diameter shown in the manufacturer's specifications. Additionally, the wire rope shall be prestretched and shall have a breaking strength of 39,285 lbs (175 kN) for 3/4 in. (19 mm) wire rope (individual wire strength equivalent to 174,000 psi (1200 N/mm)) and the prestretched wire rope shall have a minimum modulus of elasticity of 11,805,000 psi (8300 kg/mm).

The barrier shall be tested and accepted under the National Cooperative Highway Research Program (NCHRP) Report 350 for the required test level and be on the Department's approved list. Barriers installed on front slope grades of 1:6 or flatter shall be Test Level 4. Barriers installed on front slope grades steeper than 1:6 but 1:4 or flatter shall be Test Level 3.

The barrier shall include four longitudinal cables, each separated vertically from adjacent cable(s) by a minimum of 4 in. (100 mm), and according to the specific acceptance document issued by FHWA. Each cable shall run to a point of anchorage at the terminal without connection to any other cable. The maximum spacing for line posts in the cable barrier system shall be no more than shown in the specific document issued by FHWA, or 15 ft (4.6 m), whichever is less.

The terminals/end anchorages shall be tested and accepted under NCHRP Report 350 Test Level 3 and be on the Department's approved list.

Equipment. Equipment shall be according to the barrier manufacturer's specifications.

Construction Requirements

General. The HTC median barrier shall be constructed to the lines and grades shown on the plans and according to the manufacturer's specifications except as modified by the contracts documents.

Line Post Foundations. Line posts for the HTC median barrier shall be placed in concrete socket foundations. The minimum depth of the foundations shall be as shown on the plans. The minimum diameter for the foundations shall be 12 in. (300 mm) and the tops of the foundations shall be crowned 1/2 in. (13 mm).

When the barrier is to be placed within paved shoulders or mow strips, the paved area(s) shall be constructed first and the concrete foundations placed in cored or formed holes.

End Anchorages. The Contractor shall submit to the Engineer shop drawings detailing the required end anchorage foundation system at each location. The system shall utilize drilled shaft foundations and the number, diameter, depth, reinforcement, and cable connection of each shall be determined by the supplier. As a minimum, single shaft anchorage systems, with all cables terminating at one shaft, shall be at least 24 in. (600 mm) in diameter and 12 1/2 ft (3.8 m) deep while multiple shaft systems, with one cable per shaft, shall be at least 18 in. (450 mm) in diameter and 6 1/2 ft (2 m) deep. The foundation soils shall be inspected during installation to verify that either medium dense granular material or medium stiff clay soils are present. The minimum longitudinal reinforcement shall be 8 – No. 8 (No. 25) bars for the single shaft system, and 6 – No. 6 (No. 19) bars for the multiple shaft system. The minimum confinement reinforcement shall be No. 4 (No. 13) hoops at 6 in. (150 mm) centers or a No. 4 (No. 13) spiral with a 6 in. (150 mm) pitch. The minimum concrete cover over the reinforcement shall be 3 in. (75 mm).

Tensioning. Prior to acceptance of the work, the tension of the HTC median barrier shall be checked, and adjusted as necessary, according to the manufacturer's temperature/tension chart or relationship.

Hands-On Demonstration. When included in the contract, a hands-on demonstration(s) of maintenance/repair procedures, recommendations and discussion of vehicle recovery, and provisions for emergency openings in the barrier shall be conducted. These demonstrations shall be for emergency responders, maintenance personnel, and others invited by the Engineer and shall either be conducted either at the job-site or at another agreed to meeting facility. Up to 30 attendees shall be accommodated at each demonstration.

Method of Measurement. HTC median barrier will be measured for payment in feet (meters) along the top cable between terminals. Terminals shall be defined as the end anchorages and other components from the extreme ends of a run to a point 50 ft (15.2 m) into the run. This definition of the terminal applies regardless of the length of need point, transitions from anchorage to full height cable, or other features that may vary between systems.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for HIGH TENSION CABLE MEDIAN BARRIER.

The terminals/end anchorages and demonstrations will be paid for at the contract per each for HIGH TENSION CABLE MEDIAN BARRIER TERMINALS and HIGH TENSION CABLE MEDIAN BARRIER DEMONSTRATION respectively.

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%”

HOT-MIX ASPHALT – MIXTURE DESIGN COMPOSITION AND VOLUMETRIC REQUIREMENTS (BDE)

Effective: 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. 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.”

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

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

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm		IL-9.5 mm		IL-4.75 mm	
	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				
1/2 in. (12.5 mm)	45	75	50	85	90	100		100		100
3/8 in. (9.5 mm)						89	90	100		100
#4 (4.75 mm)	24	42 ^{2/}	24	50 ^{2/}	28	65	32	69	90	100
#8 (2.36 mm)	16	31	20	36	28	48 ^{3/}	32	52 ^{3/}	70	90
#16 (1.18 mm)	10	22	10	25	10	32	10	32	50	65
#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
Ratio Dust/Asphalt Binder		1.0		1.0		1.0		1.0		1.0 ^{4/}

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/ 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 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						
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum					Voids Filled with Asphalt Binder (VFA), %
	IL-25.0	IL-19.0	IL-12.5	IL-9.5	IL-4.75 ^{1/}	
50	12.0	13.0	14.0	15.0	18.5	65 – 78 ^{2/}
70					65 - 75	
90						
105						

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

2/ VFA for IL-4.75 shall be 76-83 percent”

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

Revise the Control Limits Table in Article 1030.05(d)(4) of the Standard Specifications to read.

"CONTROL LIMITS"					
Parameter	High ESAL Low ESAL	High ESAL Low ESAL	All Other	IL-4.75	IL-4.75
	Individual Test	Moving Avg. of 4	Individual Test	Individual Test	Moving Avg. of 4
% Passing: ^{1/}					
1/2 in. (12.5 mm)	± 6 %	± 4 %	± 15 %		
No. 4 (4.75 mm)	± 5 %	± 4 %	± 10 %		
No. 8 (2.36 mm)	± 5 %	± 3 %			
No. 16 (1.18 mm)				± 4 %	± 3 %
No. 30 (600 µm)	± 4 %	± 2.5 %			
Total Dust Content No. 200 (75 µm)	± 1.5 %	± 1.0 %	± 2.5 %	± 1.5 %	± 1.0 %
Asphalt Binder Content	± 0.3 %	± 0.2 %	± 0.5 %	± 0.3 %	± 0.2 %
Voids	± 1.2 %	± 1.0 %	± 1.2 %	± 1.2 %	± 1.0 %
VMA	-0.7 % ^{2/}	-0.5 % ^{2/}		-0.7 % ^{2/}	-0.5 % ^{2/}

1/ Based on washed ignition oven

2/ Allowable limit below minimum design VMA requirement"

HOT-MIX ASPHALT – MIXTURE DESIGN VERIFICATION AND PRODUCTION (BDE)

Effective: November 1, 2013

Description. This special provision provides 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. This special provision also provides the plant requirements for hydrated lime addition systems used in the production of High ESAL, IL-4.75, and SMA mixes.

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 (Illinois Modified AASHTO T 324) and the Tensile Strength Test (Illinois Modified 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 necessary changes to the mix and provide passing Hamburg Wheel and tensile strength test results from a private lab. The Department will verify the passing results.

All new and renewal mix designs shall meet the following requirements for verification testing.

- (1) Hamburg Wheel Test Criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements ^{1/}

PG Grade	Number of Passes
PG 58-xx (or lower)	5,000
PG 64-xx	7,500
PG 70-xx	15,000
PG 76-xx (or higher)	20,000

1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or less, loose Warm Mix Asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg Wheel specimens.

- (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 Article 1030.06(a) of the Standard Specifications to read:

- “(a) High ESAL, IL-4.75 and SMA Mixtures. For each contract, a 300 ton (275 metric tons) test strip 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”.

Before start-up, target values shall be determined by applying gradation correction factors to the JMF when applicable. These correction factors shall be determined from previous experience. The target values, when approved by the Engineer, shall be used to control HMA production. Plant settings and control charts shall be set according to target values.

Before constructing the test strip, target values shall be determined by applying gradation correction factors to the JMF when applicable. After any JMF adjustment, the JMF shall become the Adjusted Job Mix Formula (AJMF). Upon completion of the first acceptable test strip, the JMF shall become the AJMF regardless of whether or not the JMF has been adjusted. If an adjustment/plant change is made, the Engineer may require a new test strip to be constructed. If the HMA placed during the initial test strip is determined to be unacceptable to remain in place by the Engineer, it shall be removed and replaced.

The limitations between the JMF and AJMF are as follows.

Parameter	Adjustment
1/2 in. (12.5 mm)	± 5.0 %
No. 4 (4.75 mm)	± 4.0 %
No. 8 (2.36 mm)	± 3.0 %
No. 30 (600 μm)	*
No. 200 (75 μm)	*
Asphalt Binder Content	± 0.3 %

* In no case shall the target for the amount passing be greater than the JMF.

Any adjustments outside the above limitations will require a new mix design.

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).

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 is being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

The Department may conduct additional Hamburg Wheel tests on production material as determined by the Engineer.”

Revise the title of Article 1030.06(b) of the Standard Specifications to read:

“(b) Low ESAL and All Other Mixtures.”

System for Hydrated Lime Addition. Revise the fourth sentence of the third paragraph of Article 1030.04(c) of the Standard Specifications to read:

“The method of application shall be according to Article 1102.01(a)(10).”

Replace the first three sentences of the second paragraph of Article 1102.01(a)(10) of the Standard Specifications to read:

“When hydrated lime is used as the anti-strip additive, a separate bin or tank and feeder system shall be provided to store and accurately proportion the lime onto the aggregate either as a slurry, as dry lime applied to damp aggregates, or as dry lime injected onto the hot aggregates prior to adding the liquid asphalt cement. If the hydrated lime is added either as a slurry or as dry lime on damp aggregates, the lime and aggregates shall be mixed by a power driven pugmill to provide a uniform coating of the lime prior to entering the dryer. If dry hydrated lime is added to the hot dry aggregates in a dryer-drum plant, the lime shall be added in such a manner that the lime will not become entrained into the air stream of the dryer-drum and that thorough dry mixing shall occur prior to the injection point of the liquid asphalt. When a batch plant is used, the hydrated lime shall be added to the mixture in the weigh hopper or as approved by the Engineer.”

Basis of Payment. Replace the seventh paragraph of Article 406.14 of the Standard Specifications with the following:

“For 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.

If an anti-stripping additive is required for any other HMA mix, the cost of the additive will be paid for according to Article 109.04. The cost incurred in introducing the additive into 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.”

LIQUIDATED DAMAGES (BDE)

Effective: April 1, 2013

Revise the table in Article 108.09 of the Standard Specifications to read:

“Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Work Day
\$ 0	\$ 100,000	\$ 475	\$ 675
100,000	500,000	750	1,050
500,000	1,000,000	1,025	1,425
1,000,000	3,000,000	1,275	1,725
3,000,000	6,000,000	1,425	2,000
6,000,000	12,000,000	2,300	3,450
12,000,000	And over	6,775	9,525”

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: 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" 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	0.138E	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	0.138E	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.

FAP Route 326 (IL 47)
 Project ACNCII-0326(088)
 Section (110) R, B R & BR-1
 Grundy & Kendall Counties
 Contract No. 66B83

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			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:		
	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	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		2.77	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		2.77	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
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		Steel & Aluminum		Fill Height:						Fill Height:						Fill Height:					
	3' and less		Greater than 3' not exceeding 10'						Greater than 10' not exceeding 15'																				
	Steel		Aluminum		Steel			Aluminum		Steel		Aluminum		Steel		Aluminum													
Span (in.)	Rise (in.)	Span (in.)	Rise (in.)	Span (in.)	Rise (in.)	Span (in.)	Rise (in.)	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"	5" x 1"	2 2/3" x 1/2"	3"x1"	5" x 1"	2 2/3" x 1/2"	3"x1"	5" x 1"	2 2/3" x 1/2"	3"x1"		
15	17	13					1'-6"		0.079			0.060		0.079			0.060		0.079			0.060			0.060				
18	21	15					1'-6"		0.109			0.060		0.079			0.060		0.079			0.060			0.060				
21	24	18					1'-6"		0.109			0.060		0.079			0.060		0.079			0.060			0.060				
24	28	20					1'-6"		0.109			0.075		0.079			0.075		0.079			0.075			0.075				
30	35	24					1'-6"		0.109			0.075		0.079			0.075		0.109			0.075			0.075				
36	42	29					1'-6"		0.109			0.105		0.079			0.105		0.109			0.105			0.105				
42	49	33					1'-6"		0.109			0.105		0.109			0.105		0.109			0.105			0.105				
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	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	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	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	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	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		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		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		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		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		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				0.138	0.138			
114			137	87	137	87	1'-6"			0.138	0.138				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				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.

FAP Route 326 (IL 47)
 Project ACNCII-0326(088)
 Section (110) R, B R & BR-1
 Grundy & Kendall Counties
 Contract No. 66B83

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					
	Fill Height:							1 m and less					Greater than 1 m not exceeding 3 m					Greater than 3 m not exceeding 4.5 m					
	Steel		Aluminum		Steel			Aluminum		Steel		Aluminum		Steel		Aluminum							
	Span (mm)	Rise (mm)	Span (mm)	Rise (mm)	Span (mm)	Rise (mm)		Steel & Aluminum	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 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	
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	
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	
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	
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	
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 RCCP HE & A	Type 1		Type 2		Type 3	
	Span	Rise	Span	Rise		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 RCCP HE & A	Type 1		Type 2		Type 3	
	Span	Rise	Span	Rise		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:

FAP Route 326 (IL 47)
 Project ACNCII-0326(088)
 Section (110) R, B R & BR-1
 Grundy & Kendall Counties
 Contract No. 66B83

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

FAP Route 326 (IL 47)
 Project ACNCII-0326(088)
 Section (110) R, B R & BR-1
 Grundy & Kendall Counties
 Contract No. 66B83

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

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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

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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

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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.”

MODIFIED URETHANE PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Add the following to Article 780.02 of the Standard Specifications:

“(h) Modified Urethane Pavement Marking1095.09”

Add the following to Article 780.03 of the Standard Specifications:

“(e) Modified Urethane1105.04”

Revise Article 780.11 of the Standard Specifications to read:

“780.11 Modified Urethane. The pavement shall be cleaned of all dirt, grease, glaze, or any other material that would reduce the adhesion of the markings with minimum or no damage to the pavement. New PCC pavements shall be blast-cleaned to remove all curing compounds. New asphalt and seal coated shall be in place a minimum of two weeks prior to marking applications.

Markings shall be applied on the same calendar day that the pavement surface is cleaned. If this cannot be accomplished, the surface shall be re-cleaned prior to applying the markings. Existing pavement markings shall be at least 90 percent removed. No markings shall be applied until the Engineer approves the cleaning.

Widths, lengths, and shapes of the cleaned surface shall be prepared wider than the modified urethane pavement marking material to be applied, such that a prepared area is on all sides of the urethane pavement marking material after application.

The Contractor shall notify the Engineer 72 hours prior to the placement of the markings in order than an inspector can be present during the operation. At the time of this notification, the Contractor shall indicate the manufacturer and lot numbers of urethane and reflective media that will be used. The Engineer will ensure that the approved lot numbers appear on the material package.

The pavement markings shall be applied during conditions of dry weather and subsequently dry pavement surfaces at a minimum uniform wet thickness of 25 mils (0.64 mm) according to the manufacturer's installation instructions. The application and combination of reflective media (glass beads and/or reflective elements) shall be applied at a rate specified by the manufacturer. At the time of installation the pavement surface temperature shall be 40 °F (5 °C) and rising and the ambient temperature shall be 35 °F (2 °C) and rising. The pavement surface temperature and the ambient temperatures shall be determined and documented before the start of each of marking operation. The pavement markings shall not be applied if the pavement shows any visible signs of moisture or it is anticipated that moisture, such as rain showers, may occur during the installation and curing periods.”

Revise Article 780.12 of the Standard Specifications to read:

“780.12 Inspection. The epoxy, thermoplastic, preformed thermoplastic, preformed plastic Type B or C, polyurea, and modified urethane pavement markings will be inspected following installation, but no later than October 15 for preformed plastic markings, November 1 for thermoplastic and preformed thermoplastic markings, and December 15 for epoxy, polyurea, and modified urethane markings. In addition, they will be inspected following a winter performance period that extends 180 days from November 1.

Within 15 calendar days after the end of the winter performance period, a final performance inspection will be made. Final acceptance requirements are as follows.

- (a) Lane lines: 90 percent intact by area of each individual dashed line segment.
- (b) Crosswalks, stop lines, arrows, and words: 90 percent intact by area of each individual line, symbol, or letter.
- (c) Center lines, edge lines, gore markings, and channelizing lines: 90 percent intact by area measured over any 10 ft (3 m) length of any individual line regardless of width.
- (d) Entire project: measured in its entirety according to (a), (b), and (c) above, the entire project shall be 95 percent intact.

Upon completion of the final performance inspection, or after satisfactory completion of any necessary correction, the Engineer will notify the Contractor, in writing, of the date of such final performance inspection and release him/her from further performance responsibility.

If this inspection discloses any work, in whole or in part, which does not meet the inspection requirements, the Contractor shall, within 30 calendar days, completely repair or replace such work to the satisfaction of the Engineer.

This performance inspection and performance acceptance of the epoxy, thermoplastic, preformed thermoplastic, preformed plastic Type B and C pavement, polyurea, and modified urethane markings shall not delay acceptance of the entire project and final payment due if the Contractor requires and receives from the subcontractor a third party "performance" bond naming the Department as obligee in the full amount of all pavement marking quantities listed in the contract, multiplied by the contract unit price. The bond shall be executed prior to acceptance and final payment of the non-pavement marking items and shall be in full force and effect until final performance inspection and performance acceptance of the epoxy, thermoplastic, preformed thermoplastic, preformed plastic, polyurea, and modified urethane pavement markings. Execution of the third party bond shall be the option of the Contractor."

Revise Article 780.13 of the Standard Specifications to read:

"780.13 Method of Measurement. This work will be measured for payment as follows.

- (a) Contract Quantities. The requirements for the use of contract quantities shall be according to Article 202.07(a).
- (b) Measured Quantities. Lines will be measured for payment in place in feet (meters). Double yellow lines will be measured as two separate lines.

Words and symbols shall conform to the sizes and dimensions specified in the Illinois Manual on Uniform Traffic Control Devices and Standard 780001 and will be measured based on the total areas indicated in Table 1 or as specified in the plans.

Removal of existing pavement markings will be measured for payment according to Article 783.05."

Add the following to Section 780 of the Standard Specifications:

"780.14 Basis of Payment. This work will be paid for at the contract unit prices per foot (meter) of applied line width, as specified, for THERMOPLASTIC PAVEMENT MARKING - LINE; PAINT PAVEMENT MARKING - LINE; EPOXY PAVEMENT MARKING - LINE; PREFORMED PLASTIC PAVEMENT MARKING - LINE - TYPE B, C, or B - INLAID; PREFORMED THERMOPLASTIC PAVEMENT MARKING - LINE; POLYUREA PAVEMENT MARKING TYPE I - LINE; POLYUREA PAVEMENT MARKING TYPE II - LINE; MODIFIED URETHANE PAVEMENT MARKING - LINE; and/or per square foot (square meter) for THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS; PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS; EPOXY PAVEMENT MARKING - LETTERS AND SYMBOLS; PREFORMED PLASTIC PAVEMENT MARKING - TYPE B, C, or B - INLAID - LETTERS AND SYMBOLS; PREFORMED THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS; MODIFIED URETHANE PAVEMENT MARKING - LETTERS AND SYMBOLS.

When the Contractor has the option of applying Permanent Pavement Marking it shall be Thermoplastic, Preformed Plastic (Type B, C, or B - Inlaid), Epoxy, Preformed Thermoplastic, Polyurea, or Modified Urethane Pavement Markings. It will be paid for at the contract unit price per foot (meter) of applied line for PERMANENT PAVEMENT MARKING - LINE 4 (100), 5 (125), 6 (150), 8 (200), 12 (300), 16 (400), or 24 in. (600 mm) and per square foot (square meter) for PERMANENT PAVEMENT MARKING - LETTERS AND SYMBOLS.

Temporary pavement markings placed in lieu of permanent will be paid for according to Article 703.07.

Removal of existing pavement markings will be paid for according to Article 783.06.

*TABLE 1

LETTERS
 sq ft (sq m)

Size	A	B	C	D	E	F	G	H	I
6 ft (1.8 m)	3.1 (0.28)	4.0 (0.37)	2.7 (0.25)	3.4 (0.31)	3.3 (0.31)	2.6 (0.24)	3.3 (0.31)	3.4 (0.31)	1.5 (0.14)
8 ft (2.4 m)	5.5 (0.51)	7.1 (0.66)	4.8 (0.45)	6.1 (0.57)	5.9 (0.55)	4.7 (0.44)	5.8 (0.54)	6.0 (0.56)	2.6 (0.24)

Size	J	K	L	M	N	O	P	Q	R
6 ft (1.8 m)	2.1 (0.2)	3.1 (0.28)	2.2 (0.20)	4.2 (0.39)	4.0 (0.37)	3.4 (0.31)	3.0 (0.28)	3.6 (0.33)	3.6 (0.33)
8 ft (2.4 m)	3.7 (0.34)	5.7 (0.53)	3.8 (0.45)	7.4 (0.69)	7.1 (0.65)	6.0 (0.56)	5.3 (0.49)	6.3 (0.59)	6.3 (0.59)

Size	S	T	U	V	W	X	Y	Z
6 ft (1.8 m)	3.2 (0.30)	2.2 (0.20)	3.2 (0.30)	2.7 (0.25)	4.2 (0.39)	2.7 (0.25)	2.2 (0.20)	2.9 (0.26)
8 ft (2.4 m)	5.7 (0.53)	3.8 (0.35)	5.6 (0.52)	4.8 (0.45)	7.3 (0.68)	4.8 (0.45)	3.9 (0.36)	5.1 (0.47)

NUMBERS
 sq ft (sq m)

Size	1	2	3	4	5
6 ft (1.8 m)	1.5 (0.14)	3.3 (0.31)	3.3 (0.31)	2.9 (0.26)	3.5 (0.33)
8 ft (2.4 m)	2.6 (0.24)	5.8 (0.54)	5.8 (0.54)	5.1 (0.47)	6.1 (0.57)

Size	6	7	8	9	0
6 ft (1.8 m)	3.5 (0.33)	2.2 (0.20)	3.8 (0.35)	3.5 (0.33)	3.4 (0.31)
8 ft (2.4 m)	6.2 (0.58)	3.8 (0.35)	6.7 (0.62)	6.2 (0.58)	6.0 (0.56)

SYMBOLS

Symbol	Large Size sq ft (sq m)	Small Size sq ft (sq m)
Through Arrow	11.5 (1.07)	6.5 (0.60)
Left or Right Arrow	15.6 (1.47)	8.8 (0.82)
2 Arrow Combination Left (or Right) and Through	26.0 (2.42)	14.7 (1.37)
3 Arrow Combination Left, Right, and Through	38.4 (3.56)	20.9 (1.94)
Lane Drop Arrow	41.5 (3.86)	--
Wrong Way Arrow	24.3 (2.26)	--
Railroad "R" 6 ft (1.8 m)	3.6 (0.33)	--
Railroad "X" 20 ft (6.1 m)	54.0 (5.02)	--
Handicapped Symbol	4.6 (0.43)	--

*Table applies to all types of pavement marking materials.”

Add the following Section to Section 1095 of the Standard Specifications:

“1095.09 Modified Urethane Pavement Marking. The modified urethane pavement marking material shall consist of a homogenous blend of modified urethane resins and pigments designed to provide a simple volumetric mixing ratio of two components (must be two volumes of Part A to one volume of Part B). No volatile solvent or fillers will be allowed.

- (a) Pigmentation. The pigment content by weight (mass) of Part A shall be determined by low temperature ashing according to ASTM D 3723. The pigment content shall not vary more than \pm two percent from the pigment content of the original qualified paint.

White pigment shall be Titanium Dioxide meeting ASTM D 476 Type II, Rutile.

Yellow pigment shall be Organic Yellow containing no heavy metals.

- (b) Environmental. Upon heating to application temperature, the material shall not exude fumes which are toxic or injurious persons or property when handled according to manufacturer specifications. The modified urethane pavement marking material compositions shall not contain free isocyanate functionality.

- (c) Daylight Reflectance. The daylight directional reflectance of the cured modified urethane material (without reflective media) shall be a minimum of 80 percent (white) and 50 percent (yellow) relative to magnesium oxide when tested using a color spectrophotometer with a 45 degree circumferential / zero degrees geometry, illuminant C, and two degrees observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm. In addition, the color of the yellow modified urethane shall visually match Color Number 33538 of Federal Standard 595a with chromaticity limits as follows:

x	0.490	0.475	0.485	0.539
y	0.470	0.438	0.425	0.456

- (d) Weathering Resistance. The modified urethane, when mixed in the proper ratio and applied at 14 to 16 mils (0.35 to 0.41 mm) wet film thickness to an aluminum alloy panel (Federal Test Std. No. 141, Method 2013) and allowed to cure for 72 hours at room temperature, shall be subjected to accelerated weathering for 75 hours. The accelerated weathering shall be completed by using the light and water exposure apparatus (fluorescent UV – condensation type) and tested according to ASTM G 53.

The cycle shall consist of four hours UV exposure at 122 °F (50 °C) and four hours of condensation at 104 °F (40 °C). UVB 313 bulbs shall be used. At the end of the exposure period, the material shall show no substantial change in color or gloss.

- (e) Drying Time. The modified urethane material, when mixed in the proper ratio and applied at 14 to 16 mils (0.35 to 0.41 mm) wet film thickness and with the proper saturation of glass beads, shall exhibit a no-tracking time of four minutes or less when tested according to ASTM D 711.
- (f) Adhesion. The catalyzed modified urethane pavement marking materials when applied to a 4 x 4 x 2 in. (100 x 100 x 50 mm) concrete block shall have a degree of adhesion which results in a 100 percent concrete failure in the performance of this test.

The concrete block shall be brushed on one side and have a minimum strength of 3,500 psi (24,100 kPa). A 2 in. (50 mm) square film of the mixed modified urethane shall be applied to the brushed surface and allowed to cure for 72 hours at room temperature. A 2 in. (50 mm) cube shall be affixed to the surface of the modified urethane by means of an epoxy glue. After the glue has cured for 24 hours, the modified urethane specimen shall be placed on a dynamic testing machine in such a fashion so that the specimen block is in a fixed position and the 2 in. (50 mm) cube (glued to the modified urethane surface) is attached to the dynamometer head. Direct upward pressure shall be slowly applied until the modified urethane system fails. The location of the break and the amount of concrete failure shall be recorded.

- (g) Hardness. The modified urethane marking materials, when tested according to ASTM D 2240, shall have a Shore D Hardness greater than 75. Films shall be cast on a rigid substrate at 14 to 16 mils (0.35 to 0.41 mm) in thickness and allowed to cure at room temperature for 72 hours before testing.

- (h) Abrasion. The abrasion resistance shall be evaluated according to ASTM D 4060 using a Taber Abrader with a 1,000 gram load and CS 17 wheels. The duration of test shall be 1,000 cycles. The loss shall be calculated by difference and be less than 80. The tests shall be run on cured samples of modified urethane material which have been applied at a film thickness of 14 to 16 mils (0.35 to 0.41) to code S-16 stainless steel plates. The films shall be allowed to cure at room temperature for at least 72 hours and not more than 96 hours before testing.
- (i) Tensile. When tested according to ASTM D 638, the modified urethane pavement marking materials shall have an average tensile strength of not less than 6000 psi (41,300 kPa). The Type IV specimens shall be pulled at a rate of 1/4 in. (6.3 mm) per minute by a suitable dynamic testing machine. The samples shall be allowed to cure at 75 °F ± 2 °F (24 °C ± 1 °C) for a minimum of 24 hours and a maximum of 72 hours prior to performing the indicated tests.
- (j) Compressive Strength. When tested according to ASTM D 695, the catalyzed modified urethane pavement marking materials shall have a compressive strength of not less than 12,000 psi (83,000 kPa). The cast sample shall be conditioned at 75 °F ± 2 °F (24 °C ± 1 °C) for a minimum of 72 hours before performing the indicated tests. The rate of compression of these samples shall be no more than 1/4 in. (6.3 mm) per minute.
- (k) Glass Beads. The glass beads shall meet the requirements of Article 1095.04(m) and Article 1095.07 for first drop and second drop glass beads.
- (l) Packaging. The material shall be shipped to the jobsite in substantial containers and shall be plainly marked with the manufacturer's name and address, the name and color of the material, date of manufacture and batch number.
- (m) Verification. Prior to approval and use of the modified urethane pavement marking materials, the manufacturer shall submit a notarized certification of an independent laboratory, together with the results of all tests, stating these materials meet the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, brand name of modified urethane and date of manufacture. The certification shall be accompanied by 1 pt (1/2 L) samples each of Part A and Part B. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B.

After approval by the Department, certification by the modified urethane manufacturer shall be submitted for each batch used. New independent laboratory certified test results and samples for testing by the Department shall be submitted any time the manufacturing process or paint formulation is changed.

- (n) Acceptance samples. Acceptance samples shall consist of 1 pt (1/2 L) samples of Part A and Part B, of each lot of paint. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B. The samples shall be submitted to the Department for testing, together with a manufacturer's certification. The certification shall state the formulation for the lot represented is essentially identical to that used for qualification testing. All, acceptance samples will be taken by a representative of the Illinois Department of Transportation. The modified urethane pavement marking materials shall not be used until tests are completed and they have met the requirements as set forth herein.
- (o) Material Retainage. The manufacturer shall retain the test sample for a minimum of 18 months."

Add the following to Section 1105 of the Standard Specifications:

"1105.04 Modified Urethane. The modified urethane pavement marking compounds shall be applied through equipment specifically designed to precisely meter the two components in the ratio of 2:1 and approved by the manufacturer of the material. The equipment shall produce the required amount of heat at the mixing head and gun tip and maintain those temperatures within the tolerances specified. The equipment shall also have as an integral part of the gun carriage, a high pressure air spray capable of cleaning the pavement immediately prior to the marking application.

The equipment shall be capable of spraying both yellow and white modified urethane, according to the manufacturer's recommended proportions and be mounted on a truck of sufficient size and stability with an adequate power source to produce lines of uniform dimensions and prevent application failure. The truck shall have at least two urethane tanks each of 110 gal (415 L) minimum capacity and shall be equipped with hydraulic systems. It shall be capable of placing stripes on the left and right sides and placing two lines on a three-line system simultaneously with either line in a solid or intermittent pattern, in yellow or white, and applying glass beads by the double drop pressurized bead system. The system shall apply both the first drop glass beads and the second drop glass beads at a rate of 1.2 kg/L (10 lb/gal). The equipment shall be equipped with pressure gauges for each proportioning pump. All guns shall be in full view of operators at all times. The equipment shall have a metering device to register the accumulated installed quantities for each gun, each day. Each vehicle shall include at least one operator who shall be a technical expert in equipment operations and urethane application techniques. Certification of equipment shall be provided at the preconstruction conference."

PAVEMENT MARKING TAPE TYPE IV (BDE)

Effective: April 1, 2012

Revise Article 703.02 of the Standard Specifications to read:

“703.02 Materials. Materials shall be according to the following.

- (a) Pavement Marking Tape, Type I and Type III 1095.06
- (b) Paint Pavement Markings 1095.02
- (c) Pavement Marking Tape, Type IV 1095.11”

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

“Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.”

Revise the third paragraph of Article 703.07 of the Standard Specifications to read:

“When Pavement Marking Tape, Type III or Pavement Marking Tape, Type IV is specified in the contract other than on a Standard, the work will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.”

Add the following to Section 1095 of the Standard Specifications:

“1095.11 Pavement Marking Tape, Type IV. The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

- (a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.

(b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.

(1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D4061 and meet the values described in Article 1095.06 for Type III tape.

(2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E2177 and meet the values shown in the following table.

Wet Retroreflectance, Initial R_L	
Color	R_L 1.05/88.76
White	300
Yellow	200

(c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

(d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E303.

(e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer.”

PAVEMENT REMOVAL (BDE)

Effective: April 1, 2013

Revise Article 440.07(c) of the Standard Specifications to read:

“(c) Adjustment of Quantities. The quantity of pavement removal will be adjusted if the thickness of the existing pavement varies more than 15 percent from that shown on the plans. The quantity will be either increased or decreased according to the following table.

% change of thickness	% change of quantity
0 to less than 15	0
15 to less than 20	10
20 to less than 30	15
30 to less than 50	20

If the thickness of the existing pavement varies by 50 percent or more from that shown on the plans, the character of the work will be considered significantly changed and an adjustment to the contract will be made according to Article 104.02.

When an adjustment is made for variations in pavement thickness a resulting adjustment will also be made in the earthwork quantities when applicable.

No adjustment will be made for variations in the amount of reinforcement.”

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: June 1, 2000

Revised: January 1, 2006

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the State Prompt Payment Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

When progress payments are made to the Contractor according to Article 109.07 of the Standard Specifications, the Contractor shall make a corresponding payment to each subcontractor and material supplier in proportion to the work satisfactorily completed by each subcontractor and for the material supplied to perform any work of the contract. The proportionate amount of partial payment due to each subcontractor and material supplier throughout the contracting chain shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors and material suppliers shall be paid by the Contractor within 15 calendar days after the receipt of payment from the Department. The Contractor shall not hold retainage from the subcontractors. These obligations shall also apply to any payments made by subcontractors and material suppliers to their subcontractors and material suppliers; and to all payments made to lower tier subcontractors and material suppliers throughout the contracting chain. Any payment or portion of a payment subject to this provision may only be withheld from the subcontractor or material supplier to whom it is due for reasonable cause.

This Special Provision does not create any rights in favor of any subcontractor or material supplier against the State or authorize any cause of action against the State on account of any payment, nonpayment, delayed payment, or interest claimed by application of the State Prompt Payment Act. The Department will not approve any delay or postponement of the 15 day requirement except for reasonable cause shown after notice and hearing pursuant to Section 7(b) of the State Prompt Payment Act. State law creates other and additional remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond according to the Public Construction Bond Act, 30 ILCS 550.

PLACING AND CONSOLIDATING CONCRETE (BDE)

Effective: January 1, 2013

Revise the first paragraph of Article 503.06 of the Standard Specifications to read:

“503.06 Forms. Forms shall be set and maintained to the lines and grades shown on the plans, and shall be tight to prevent concrete leakage.”

Revise Article 503.07 of the Standard Specifications to read:

“ 503.07 Placing and Consolidating. No concrete shall be placed on ice, snow, or frozen foundation material.

The method and manner of placing concrete shall be such as to avoid segregation or separation of the aggregates or the displacement of the reinforcement. The external surface of all concrete shall be thoroughly worked during the operations of placing in such a manner as to work the mortar against the forms to produce a smooth finish free of honeycomb and with a minimum of water and air pockets.

Open troughs and chutes shall extend as nearly as practicable to the point of deposit. Dropping the concrete a distance of more than 5 ft (1.5 m) or depositing a large quantity at any point and running or working it along the forms will not be permitted. The concrete for walls with an average thickness of 12 in. (300 mm) or less shall be placed with tubes so that the drop is not greater than 5 ft (1.5 m).

For self-consolidating concrete, the maximum distance of horizontal flow from the point of deposit shall be 15 ft (4.6 m). The distance may be increased if the dynamic segregation index (DSI) at the maximum flow distance is 10.0 percent or less according to Illinois Test Procedure SCC-8 (Option C). The maximum distance using the DSI shall be 25 ft (7.6 m). In addition, this specified horizontal flow distance shall apply to precast products. In the case of precast prestressed concrete products, refer to the Department's "Manual of Fabrication for Precast Prestressed Concrete Products" for the specified horizontal flow distance requirements.

When the form height for placing the self-consolidating concrete is greater than 10 ft (3.0 m), direct monitoring of form pressure shall be performed by the Contractor according to Illinois Test Procedure SCC-10. The monitoring requirement is a minimum, and the Contractor shall remain responsible for adequate design of the falsework and forms. The Contractor shall record the formwork pressure during concrete placement. This information shall be used by the Contractor to prevent the placement rate from exceeding the maximum formwork pressure allowed, to monitor the thixotropic change in the concrete during the pour, and to make appropriate adjustments to the mix design. This information shall be provided to the Engineer during the pour.

When concrete is pumped, the equipment shall be suitable in kind and adequate in capacity for the work and arranged so that vibrations will not damage freshly placed concrete. Aluminum pipe or conduit will not be permitted in pumping or placing concrete. Mixed concrete shall be supplied to maintain continuous operation of the pumping equipment.

When air entrained concrete is pumped, an accessory or accessories shall be incorporated in the discharge components to minimize air loss. The maximum allowable air loss caused by the pumping operation shall be 3.0 percent with the minimum air content at the point of discharge meeting the requirements of Article 1020.04.

Placing of concrete shall be regulated so that the pressures caused by the wet concrete will not exceed those used in the design of the forms. Special care shall be taken to fill each part of the forms by depositing the concrete as near its final position as possible, to work the coarser aggregates back from the face, and to force the concrete under and around the reinforcement bars without displacing them. Leakage through forms onto beams or girders shall not be allowed to harden and shall be removed while in a plastic state.

The concrete shall be consolidated by internal vibration unless self-consolidating concrete is used. Self-consolidating concrete may be used for inaccessible locations where consolidation by internal vibration is not practicable. The self consolidating concrete shall be rodded with a piece of lumber, conduit, or vibrator if the material has lost its fluidity prior to placement of additional concrete. The vibrator may only be permitted if it can be used in a manner that does not cause segregation as determined by the Engineer. Any other method for restoring the fluidity of the concrete shall be approved by the Engineer.

The Contractor shall provide and use a sufficient number of vibrators to ensure that consolidation can be started immediately after the concrete has been deposited in the forms.

The vibrators shall be inserted into the concrete immediately after it is deposited and shall be moved throughout the mass so as to thoroughly work the concrete around the reinforcement, embedded fixtures, and into the corners and angles of the forms. Vibrators shall not be attached to the forms, reinforcement bars, or the surface of the concrete.

Application of vibrators shall be at points uniformly spaced and not farther apart than twice the radius over which the vibration is visibly effective. The duration of the vibration at the points of insertion shall be sufficient to thoroughly consolidate the concrete into place but shall not be continued so as to cause segregation. When consolidating concrete in bridge decks, the vibrator shall be vertically inserted into the concrete for 3 - 5 seconds or for a period of time determined by the Engineer. Vibration shall be supplemented by spading when required by the Engineer. In addition to the internal vibration required herein, formed surfaces which will be exposed to view after completion of the work shall be spaded with a spading tool approved by the Engineer.

Concrete shall be placed in continuous horizontal layers. When it is necessary by reason of an emergency to place less than a complete horizontal layer in one operation, such layer shall terminate in a vertical bulkhead. Separate batches shall follow each other closely and in no case shall the interval of time between the placing of successive batches be greater than 20 minutes.

If mix foaming or detrimental material is observed during placement or at the completion of a pour, the material shall be removed while the concrete is still plastic

After the concrete has taken its initial set, care shall be exercised to avoid jarring the forms or placing any strain on the ends of projecting reinforcement.”

Revise Article 516.12(a) of the Standard Specifications to read:

“(a) Free Fall Placement. The free fall placement shall only be permitted in shafts that can be dewatered to ensure less than 3 in. (75 mm) of standing water exist at the time of placement without causing side wall instability. The height of free fall placement shall be a maximum of 60 ft (18.3 m) as measured from the discharge end, but it shall be reduced to a maximum of 30 ft (9.1 m) when self-consolidating concrete is used. The Contractor shall obtain approval from the Engineer to place self-consolidating concrete by free fall.

Concrete placed by free fall shall fall directly to the base without contacting either the rebar cage or shaft sidewall. Drop chutes may be used to direct concrete to the base during free fall placement.

Drop chutes used to direct placement of free fall concrete shall consist of a smooth tube of either one continuous section or multiple pieces that can be added and removed. Concrete may be placed through either a hopper at the top of the tube or side openings as the drop chute is retrieved during concrete placement. The drop chute shall be supported so that free fall does not exceed the specified maximum 60 ft (18.3 m) or 30 ft (9.1 m) at all times from the discharge end, and to ensure the concrete does not strike the rebar cage. If placement cannot be satisfactorily accomplished by free fall in the opinion of the Engineer, either a tremie or pump shall be used to accomplish the pour.”

PORTLAND CEMENT CONCRETE (BDE)

Effective: January 1, 2012

Revised: November 1, 2013

Revise Notes 1 and 2 of Article 312.24 of the Standard Specifications to read:

“Note 1. Coarse aggregate shall be gradation CA 6, CA 7, CA 9, CA 10, or CA 11, Class D quality or better. Article 1020.05(d) shall apply.

Note 2. Fine aggregate shall be FA 1 or FA 2. Article 1020.05(d) shall apply.”

Revise the first paragraph of Article 312.26 of the Standard Specifications to read:

“**312.26 Proportioning and Mix Design.** At least 60 days prior to start of placing CAM II, the Contractor shall submit samples of materials for proportioning and testing. The mixture shall contain a minimum of 200 lb (90 kg) of cement per cubic yard (cubic meter). Portland cement may be replaced with fly ash according to Article 1020.05(c)(1), however the minimum portland cement content in the mixture shall be 170 lbs/cu yd (101 kg/cu m). Blends of coarse and fine aggregates will be permitted, provided the volume of fine aggregate does not exceed the volume of coarse aggregate. The Engineer will determine the proportions of materials for the mixture. However, the Contractor may substitute their own mix design. Article 1020.05(a) shall apply and a Level III PCC Technician shall develop the mix design.”

Revise the second paragraph of Article 503.22 of the Standard Specifications to read:

Other cast-in-place concrete for structures will be paid for at the contract unit price per cubic yard (cubic meter) for CONCRETE HANDRAIL, CONCRETE ENCASEMENT, and SEAL COAT CONCRETE.”

Add the following to Article 1003.02 of the Standard Specifications:

(e) Alkali Reaction.

- (1) ASTM C 1260. Each fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department's Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.03 percent will be assigned to limestone or dolomite fine aggregates (manufactured stone sand). However, the Department reserves the right to perform the ASTM C 1260 test.
- (2) ASTM C 1293 by Department. In some instances, such as chert natural sand or other fine aggregates, testing according to ASTM C 1260 may not provide accurate test results. In this case, the Department may only test according to ASTM C 1293.
- (3) ASTM C 1293 by Contractor. If an individual aggregate has an ASTM C 1260 expansion value that is unacceptable to the Contractor, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The laboratory performing the ASTM C 1293 test shall be approved by the Department according to the current Bureau of Materials and Physical Research Policy Memorandum "Minimum Laboratory Requirements for Alkali-Silica Reactivity (ASR) Testing".

The ASTM C 1293 test shall be performed with Type I or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container, wick of absorbent material, or amount of coverage inside the container with blotting paper, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly. If the aggregate is manufactured into multiple gradation numbers, and the other gradation numbers have the same or lower ASTM C 1260 value, the ASTM C 1293 test result may apply to multiple gradation numbers.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 test result. When the Contractor performs the test, a split sample shall be provided to the Engineer. The Engineer may also independently obtain a sample at any time. The aggregate will be considered reactive if the Contractor or Engineer obtains an expansion value of 0.040 percent or greater.

Revise the first paragraph of Article 1004.01(e)(5) of the Standard Specifications to read:

“Crushed concrete, crushed slag, or lightweight aggregate for portland cement concrete shall be stockpiled in a moist condition (saturated surface dry or greater) and the moisture content shall be maintained uniformly throughout the stockpile by periodic sprinkling.”

Revise Article 1004.02(d) of the Standard Specifications to read:

“(d)Combining Sizes. Each size shall be stored separately and care shall be taken to prevent them from being mixed until they are ready to be proportioned. Separate compartments shall be provided to proportion each size.

(1) When Class BS concrete is to be pumped, the coarse aggregate gradation shall have a minimum of 45 percent passing the 1/2 in. (12.5 mm) sieve. The Contractor may combine two or more coarse aggregate sizes, consisting of CA 7, CA 11, CA 13, CA 14, and CA 16, provided a CA 7 or CA 11 is included in the blend.

(2) If the coarse aggregate is furnished in separate sizes, they shall be combined in proportions to provide a uniformly graded coarse aggregate grading within the following limits.

Class of Concrete ^{1/}	Combined Sizes	Sieve Size and Percent Passing						
		2 1/2 in.	2 in.	1 3/4 in.	1 1/2 in.	1 in.	1/2 in.	No. 4
PV ^{2/}	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3
SI and SC ^{2/}	CA 3 & CA 7	100	95±5	---	---	55±25	20±10	3±3
	CA 3 & CA 11	100	95±5	---	---	55±25	20±10	3±3
	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3

Class of Concrete ^{1/}	Combined Sizes	Sieve Size (metric) and Percent Passing						
		63 mm	50 mm	45 mm	37.5 mm	25 mm	12.5 mm	4.75 mm
PV ^{2/}	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3
SI and SC ^{2/}	CA 3 & CA 7	100	95±5	---	---	55±25	20±10	3±3
	CA 3 & CA 11	100	95±5	---	---	55±25	20±10	3±3
	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3

1/ See Table 1 of Article 1020.04.

2/ Any of the listed combination of sizes may be used.”

Add the following to Article 1004.02 of the Standard Specifications:

(g) Alkali Reaction.

- (1) ASTM C 1260. Each coarse aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department’s Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will be assigned to limestone or dolomite coarse aggregates. However, the Department reserves the right to perform the ASTM C 1260 test.
- (2) ASTM C 1293 by Department. In some instances testing a coarse aggregate according to ASTM C 1260 may not provide accurate test results. In this case, the Department may only test according to ASTM C 1293.
- (3) ASTM C 1293 by Contractor. If an individual aggregate has an ASTM C 1260 expansion value that is unacceptable to the Contractor, an ASTM C 1293 test may be performed by the Contractor according to Article 1003.02(e)(3).

Revise the first paragraph of Article 1019.06 of the Standard Specifications to read:

“1019.06 Contractor Mix Design. A Contractor may submit their own mix design and may propose alternate fine aggregate materials, fine aggregate gradations, or material proportions. Article 1020.05(a) shall apply and a Level III PCC Technician shall develop the mix design.”

Revise Section 1020 of the Standard Specifications to read:

“SECTION 1020. PORTLAND CEMENT CONCRETE

1020.01 Description. This item shall consist of the materials, mix design, production, testing, curing, low air temperature protection, and temperature control of concrete.

1020.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate	1003
(d) Coarse Aggregate	1004
(e) Concrete Admixtures	1021
(f) Finely Divided Minerals	1010
(g) Concrete Curing Materials	1022
(h) Straw	1081.06(a)(1)
(i) Calcium Chloride	1013.01

1020.03 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Concrete Mixers and Trucks	1103.01
(b) Batching and Weighing Equipment	1103.02
(c) Automatic and Semi-Automatic Batching Equipment	1103.03
(d) Water Supply Equipment	1103.11
(e) Membrane Curing Equipment	1101.09
(f) Mobile Portland Cement Concrete Plants	1103.04

1020.04 Concrete Classes and General Mix Design Criteria. The classes of concrete shown in Table 1 identify the various mixtures by the general uses and mix design criteria. If the class of concrete for a specific item of construction is not specified, Class SI concrete shall be used.

For the minimum cement factor in Table 1, it shall apply to portland cement, portland-pozzolan cement, and portland blast-furnace slag except when a particular cement is specified in the Table.

The Contractor shall not assume that the minimum cement factor indicated in Table 1 will produce a mixture that will meet the specified strength. In addition, the Contractor shall not assume that the maximum finely divided mineral allowed in a mix design according to Article 1020.05(c) will produce a mixture that will meet the specified strength. The Contractor shall select a cement factor within the allowable range that will obtain the specified strength. The Contractor shall take into consideration materials selected, seasonal temperatures, and other factors which may require the Contractor to submit multiple mix designs.

For a portland-pozzolan cement, portland blast-furnace slag cement, or when replacing portland cement with finely divided minerals per Articles 1020.05(c) and 1020.05(d), the portland cement content in the mixture shall be a minimum of 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). When calculating the portland cement portion in the portland-pozzolan or portland blast-furnace slag cement, the AASHTO M 240 tolerance may be ignored.

Special classifications may be made for the purpose of including the concrete for a particular use or location as a separate pay item in the contract. The concrete used in such cases shall conform to this section.

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 Grundy & Kendall Counties
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TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA												
Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio lb/lb	S l u m p in. (4)	Mix Design Compressive Strength (Flexural Strength) psi, minimum			Air Content %	Coarse Aggregate Gradations (14)	
			cwt/cu yd (3)	Min.			Max	Days				
								3	14			28
PV	Pavement Base Course	420 or 421 353			0.32 - 0.42	2 - 4 (5)	Ty III 3500 (650)	3500 (650)		5.0 - 8.0 (5)	CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, or CA 14	
	Base Course Widening	354	5.65 (1)	7.05								
	Driveway Pavement	423	6.05 (2)									
	Shoulders	483										
	Shoulder Curb	662										
PP	Pavement Patching Bridge Deck Patching (10)	442					3200 (600) Article 701.17(e)(3)b.				CA 7, CA 11, CA 13, CA 14, or CA 16	
	PP-1		6.50 6.20 (Ty III)	7.50 7.20 (Ty III)	0.32 - 0.44	2 - 4	at 48 hours			4.0 - 7.0		
	PP-2		7.35	8.20	0.32 - 0.38	2 - 6	at 24 hours			4.0 - 6.0		
	PP-3		7.35 (Ty III) (8)	7.35 (Ty III) (8)	0.32 - 0.35	2 - 4	at 16 hours			4.0 - 6.0		
	PP-4		6.00 (9)	6.25 (9)	0.32 - 0.50	2 - 6	at 8 hours			4.0 - 6.0		
	PP-5		6.75 (9)	6.75 (9)	0.32 - 0.40	2 - 8	at 4 hours			4.0 - 6.0		
RR	Railroad Crossing	422	6.50 6.20 (Ty III)	7.50 7.20 (Ty III)	0.32 - 0.44	2 - 4	3500 (650) at 48 hours			4.0 - 7.0	CA 7, CA 11, or CA 14	
BS	Bridge Superstructure Bridge Approach Slab	503	6.05	7.05	0.32 - 0.44	2 - 4 (5)		4000 (675)		5.0 - 8.0 (5)	CA 7, CA 11, or CA 14 (7)	
PC	Various Precast Concrete Items Wet Cast Dry Cast	1042	5.65 5.65 (TY III)	7.05 7.05 (TY III)	0.32 - 0.44 0.25 - 0.40	1 - 4 0 - 1	See Section 1042			5.0 - 8.0 N/A	CA7, CA11, CA 13, CA 14, CA 16, or CA 7 & CA 16	
PS	Precast Prestressed Members	504			0.32 - 0.44	1 - 4			Plans	5.0 - 8.0	CA 11 (11), CA 13, CA 14 (11), or CA 16	
	Precast Prestressed Piles and Extensions	512	5.65 5.65 (TY III)	7.05 7.05 (TY III)					5000			
	Precast Prestressed Sight Screen	639							3500			

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TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA											
Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio lb/lb	S l u m p in. (4)	Mix Design Compressive Strength (Flexural Strength)			Air Content %	Coarse Aggregate Gradations (14)
			cwt/cu yd (3)				psi, minimum				
			Min.	Max			Days				
						3	14	28			
DS	Drilled Shaft (12) Metal Shell Piles (12) Sign Structures Drilled Shaft (12) Light Tower Foundation (12)	516 512 734 837	6.65	7.05	0.32 - 0.44	6 - 8 (6)		4000 (675)		5.0 - 8.0	CA 13, CA 14, CA 16, or a blend of these gradations.
SC	Seal Coat	503	5.65 (1) 6.05 (2)	7.05	0.32 - 0.44	3 - 5		3500 (650)		Optional 6.0 max.	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 5 & CA 11, CA 7, or CA 11
SI	Structures (except Superstructure) Sidewalk Slope Wall Encasement Box Culverts End Section and Collar Curb, Gutter, Curb & Gutter, Median, and Paved Ditch Concrete Barrier Sign Structures Spread Footing Concrete Foundation Pole Foundation (12) Traffic Signal Foundation Drilled Shaft (12) Square or Rectangular	503 424 511 512 540 542 606 637 734 836 878	5.65 (1) 6.05 (2)	7.05	0.32 - 0.44	2 - 4 (5)		3500 (650)		5.0 - 8.0 (5)	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, CA 13, CA 14, or CA 16 (13)

- Notes:
- (1) Central-mixed.
 - (2) Truck-mixed or shrink-mixed.
 - (3) For Class SC concrete and for any other class of concrete that is to be placed underwater, except Class DS concrete, the cement factor shall be increased by ten percent.
 - (4) The maximum slump may be increased to 7 in. when a high range water-reducing admixture is used for all classes of concrete, except Class PV, SC, and PP. For Class SC, the maximum slump may be increased to 8 in. For Class PP-1, the maximum slump may be increased to 6 in. For Class PS, the 7 in. maximum slump may be increased to 8 1/2 in. if the high range water-reducing admixture is the polycarboxylate type.
 - (5) The slump range for slipform construction shall be 1/2 to 2 1/2 in. and the air content range shall be 5.5 to 8.0 percent.
 - (6) If concrete is placed to displace drilling fluid, or against temporary casing, the slump shall be 8 - 10 in. at the point of placement. If a water-reducing admixture is used in lieu of a high range water-reducing admixture according to Article 1020.05(b)(7), the slump shall be 2 - 4 in.
 - (7) For Class BS concrete used in bridge deck patching, the coarse aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching.
 - (8) In addition to the Type III portland cement, 100 lb/cu yd of ground granulated blast-furnace slag and 50 lb/cu yd of microsilica (silica fume) shall be used. For an air temperature greater than 85 °F, the Type III portland cement may be replaced with Type I or II portland cement.
 - (9) The cement shall be a rapid hardening cement from the Department's "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs" for PP-4 and calcium aluminate cement for PP-5.
 - (10) For Class PP concrete used in bridge deck patching, the coarse aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching. In addition, the mix design shall have 72 hours to obtain a 4,000 psi compressive or 675 psi flexural strength for all PP mix designs.
 - (11) The nominal maximum size permitted is 3/4 in. Nominal maximum size is defined as the largest sieve which retains any of the aggregate sample particles.
 - (12) The concrete mix shall be designed to remain fluid throughout the anticipated duration of the pour plus one hour. At the Engineer's discretion, the Contractor may be required to conduct a minimum 2 cu yd trial batch to verify the mix design.
 - (13) CA 3 or CA 5 may be used when the nominal maximum size does not exceed two-thirds the clear distance between parallel reinforcement bars, or between the reinforcement bar and the form. Nominal maximum size is defined in Note 11.
 - (14) Alternate combinations of gradation sizes may be used with the approval of the Engineer. Refer also to Article 1004.02(d) for additional information on combining sizes.

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TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA (metric)											
Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio kg/kg	S l u m p mm (4)	Mix Design Compressive Strength (Flexural Strength) kPa, minimum			Air Content %	Coarse Aggregate Gradations (14)
			kg/cu m (3)				Days				
			Min.	Max			3	14	28		
PV	Pavement Base Course	420 or 421 353									CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, or CA 14
	Base Course Widening	354	335 (1)	418	0.32 - 0.42	50 - 100	Ty III 24,000 (4500)	24,000 (4500)		5.0 - 8.0 (5)	
	Driveway Pavement	423	360 (2)								
	Shoulders	483									
	Shoulder Curb	662									
PP	Pavement Patching Bridge Deck Patching (10)	442					22,100 (4150) Article 701.17(e)(3)b.				CA 7, CA 11, CA 13, CA 14, or CA 16
	PP-1		385 365 (Ty III)	445 425 (Ty III)	0.32 - 0.44	50 - 100	at 48 hours			4.0 - 7.0	
	PP-2		435	485	0.32 - 0.38	50 - 150	at 24 hours			4.0 - 6.0	
	PP-3		435 (Ty III) (8)	435 (Ty III) (8)	0.32 - 0.35	50 - 100	at 16 hours			4.0 - 6.0	
	PP-4		355 (9)	370 (9)	0.32 - 0.50	50 - 150	at 8 hours			4.0 - 6.0	
	PP-5		400 (9)	400 (9)	0.32 - 0.40	50 - 200	at 4 hours			4.0 - 6.0	
RR	Railroad Crossing	422	385 365 (Ty III)	445 425 (Ty III)	0.32 - 0.44	50 - 100	24,000 (4500) at 48 hours			4.0 - 7.0	CA 7, CA 11, or CA 14
BS	Bridge Superstructure Bridge Approach Slab	503	360	418	0.32 - 0.44	50 - 100 (5)		27,500 (4650)		5.0 - 8.0 (5)	CA 7, CA 11, or CA 14 (7)
PC	Various Precast Concrete Items Wet Cast Dry Cast	1042	335 335 (TY III)	418 418 (TY III)	0.32 - 0.44 0.25 - 0.40	25 - 100 0 - 25	See Section 1042			5.0 - 8.0 N/A	CA7, CA11, CA13, CA 14, CA 16, or CA 7 & CA 16
PS	Precast Prestressed Members	504							Plans	5.0 - 8.0	CA 11 (11), CA 13, CA 14 (11), or CA 16
	Precast Prestressed Piles and Extensions	512	335 335 (TY III)	418 418 (TY III)	0.32 - 0.44	25 - 100			34,500		
	Precast Prestressed Sight Screen	639							24,000		

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TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA (metric)											
Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio kg/kg	S I u m p mm (4)	Mix Design Compressive Strength (Flexural Strength)			Air Content %	Coarse Aggregate Gradations (14)
			kg/cu m (3)				kPa, minimum				
			Min.	Max			Days				
						3	14	28			
DS	Drilled Shaft (12) Metal Shell Piles (12) Sign Structures Drilled Shaft (12) Light Tower Foundation (12)	516 512 734 837	395	418	0.32 - 0.44	150 - 200 (6)		27,500 (4650)		5.0 - 8.0	CA 13, CA 14, CA 16, or a blend of these gradations.
SC	Seal Coat	503	335 (1) 360 (2)	418	0.32 - 0.44	75 - 125		24,000 (4500)		Optional 6.0 max.	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 5 & CA 11, CA 7, or CA 11
SI	Structures (except Superstructure) Sidewalk Slope Wall Encasement Box Culverts End Section and Collar Curb, Gutter, Curb & Gutter, Median, and Paved Ditch Concrete Barrier Sign Structures Spread Footing Concrete Foundation Pole Foundation (12) Traffic Signal Foundation Drilled Shaft (12) Square or Rectangular	503 424 511 512 540 542 606 637 734 836 878	335 (1) 360 (2)	418	0.32 - 0.44	50 - 100 (5)		24,000 (4500)		5.0 - 8.0 (5)	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, CA 13, CA 14, or CA 16 (13)

- Notes:
- (1) Central-mixed.
 - (2) Truck-mixed or shrink-mixed.
 - (3) For Class SC concrete and for any other class of concrete that is to be placed underwater, except Class DS concrete, the cement factor shall be increased by ten percent.
 - (4) The maximum slump may be increased to 175 mm when a high range water-reducing admixture is used for all classes of concrete except Class PV, SC, and PP. For Class SC, the maximum slump may be increased to 200 mm. For Class PP-1, the maximum slump may be increased to 150 mm. For Class PS, the 175 mm maximum slump may be increased to 215 mm if the high range water-reducing admixture is the polycarboxylate type.
 - (5) The slump range for slipform construction shall be 13 to 64 mm and the air content range shall be 5.5 to 8.0 percent.
 - (6) If concrete is placed to displace drilling fluid, or against temporary casing, the slump shall be 200 - 250 mm at the point of placement. If a water-reducing admixture is used in lieu of a high range water-reducing admixture according to Article 1020.05(b)(7), the slump shall be 50 – 100 mm.
 - (7) For Class BS concrete used in bridge deck patching, the coarse aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching.
 - (8) In addition to the Type III portland cement, 60 kg/cu m of ground granulated blast-furnace slag and 30 kg/cu m of microsilica (silica fume) shall be used. For an air temperature greater than 30 °C, the Type III portland cement may be replaced with Type I or II portland cement.
 - (9) The cement shall be a rapid hardening cement from the Department's "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs" for PP-4 and calcium aluminate cement for PP-5.
 - (10) For Class PP concrete used in bridge deck patching, the coarse aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching. In addition, the mix design shall have 72 hours to obtain a 27,500 kPa compressive or 4,650 kPa flexural.
 - (11) The nominal maximum size permitted is 19 mm. Nominal maximum size is defined as the largest sieve which retains any of the aggregate sample particles.
 - (12) The concrete mix shall be designed to remain fluid throughout the anticipated duration of the pour plus one hour. At the Engineer's discretion, the Contractor may be required to conduct a minimum 1.5 cu m trial batch to verify the mix design.
 - (13) CA 3 or CA 5 may be used when the nominal maximum size does not exceed two-thirds the clear distance between parallel reinforcement bars, or between the reinforcement bar and the form. Nominal maximum size is defined in Note 11.
 - (14) Alternate combinations of gradation sizes may be used with the approval of the Engineer. Refer also to Article 1004.02(d) for additional information on combining sizes.

Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation. Self-consolidating concrete mix designs may be developed for Class BS, PC, PS, DS, and SI concrete. Self-consolidating concrete mix designs may also be developed for precast concrete products that are not subjected to Class PC concrete requirements according to Section 1042. The mix design criteria for the concrete mixture shall be according to Article 1020.04 with the following exceptions.

- (a) The slump requirements shall not apply.
- (b) The concrete mixture should be uniformly graded, and information in the “Portland Cement Concrete Level III Technician Course – Manual of Instructions for Design of Concrete Mixtures” may be used to develop the uniformly graded mix design. The coarse aggregate gradations shall be CA 11, CA 13, CA 14, CA 16, or a blend of these gradations. However, the final gradation when using a single coarse aggregate or combination of coarse aggregates shall have 100 percent pass the 1 in. (25 mm) sieve, and minimum 95 percent pass the 3/4 in. (19 mm) sieve. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used.
- (c) The slump flow range shall be 22 in. (560 mm) minimum to 28 in. (710 mm) maximum and tested according to Illinois Test Procedure SCC-2.
- (d) The visual stability index shall be a maximum of 1 and tested according to Illinois Test Procedure SCC-2.
- (e) The J-Ring value shall be a maximum of 2 in. (50 mm) and tested according to Illinois Test Procedure SCC-3. The L-Box blocking ratio shall be a minimum of 80 percent and tested according to Illinois Test Procedure SCC-3. The Contractor has the option to select either test.
- (f) The hardened visual stability index shall be a maximum of 1 and tested according to Illinois Test Procedure SCC-6.
- (g) If Class PC concrete requirements do not apply to the precast concrete product according to Section 1042, the maximum cement factor shall be 7.05 cwt/cu yd (418 kg/cu m) and the maximum allowable water/cement ratio shall be 0.44.
- (h) If the measured slump flow, visual stability index, J-Ring value, or L-Box blocking ratio fall outside the limits specified, a check test will be made. In the event of a second failure, the Engineer may refuse to permit the use of the batch of concrete represented.

The Contractor may use water or self-consolidating admixtures at the jobsite to obtain the specified slump flow, visual stability index, J-ring value, or L-box blocking ratio. The maximum design water/cement ratio shall not be exceeded.

1020.05 Other Concrete Criteria. The concrete shall be according to the following.

- (a) Proportioning and Mix Design. For all Classes of concrete, it shall be the Contractor's responsibility to determine mix design material proportions and to proportion each batch of concrete. A Level III PCC Technician shall develop the mix design for all Classes of concrete, except Classes PC and PS. The mix design, submittal information, trial batch, and Engineer verification shall be according to the "Portland Cement Concrete Level III Technician" course material.

The Contractor shall provide the mix designs a minimum of 45 calendar days prior to production. More than one mix design may be submitted for each class of concrete.

The Engineer will verify the mix design submitted by the Contractor. Verification of a mix design shall in no manner be construed as acceptance of any mixture produced. Once a mix design has been verified, the Engineer shall be notified of any proposed changes.

Tests performed at the jobsite will determine if a mix design can meet specifications. If the tests indicate it cannot, the Contractor shall make adjustments to a mix design, or submit a new mix design if necessary, to comply with the specifications.

- (b) Admixtures. The Contractor shall be responsible for using admixtures and determining dosages for all Classes of concrete, cement aggregate mixture II, and controlled low-strength material that will produce a mixture with suitable workability, consistency, and plasticity. In addition, admixture dosages shall result in the mixture meeting the specified plastic and hardened properties. The Contractor shall obtain approval from the Engineer to use an accelerator when the concrete temperature is greater than 60 °F (16 °C). However, this accelerator approval by the Engineer will not be required for Class PP, RR, PC, and PS concrete. The accelerator shall be the non-chloride type unless otherwise specified in the contract plans.

The Department will maintain an Approved List of Corrosion Inhibitors. Corrosion inhibitor dosage rates shall be according to Article 1020.05(b)(10). For information on approved controlled low-strength material air-entraining admixtures, refer to Article 1019.02. The Department will also maintain an Approved List of Concrete Admixtures, and an admixture technical representative shall be consulted by the Contractor prior to the pour when determining an admixture dosage from this list or when making minor admixture dosage adjustments at the jobsite. The dosage shall be within the range indicated on the approved list unless the influence by other admixtures, jobsite conditions (such as a very short haul time), or other circumstances warrant a dosage outside the range. The Engineer shall be notified when a dosage is proposed outside the range. To determine an admixture dosage, air temperature, concrete temperature, cement source and quantity, finely divided mineral sources and quantity, influence of other admixtures, haul time, placement conditions, and other factors as appropriate shall be considered. The Engineer may request the Contractor to have a batch of concrete mixed in the lab or field to verify the admixture dosage is correct. An admixture dosage or combination of admixture dosages shall not delay the initial set of concrete by more than one hour. When a retarding admixture is required or appropriate for a bridge deck or bridge deck overlay pour, the initial set time shall be delayed until the deflections due to the concrete dead load are no longer a concern for inducing cracks in the completed work. However, a retarding admixture shall not be used to further extend the pour time and justify the alteration of a bridge deck pour sequence.

When determining water in admixtures for water/cement ratio, the Contractor shall calculate 70 percent of the admixture dosage as water, except a value of 50 percent shall be used for a latex admixture used in bridge deck latex concrete overlays.

The sequence, method, and equipment for adding the admixtures shall be approved by the Engineer. Admixtures shall be added to the concrete separately. An accelerator shall always be added prior to a high range water-reducing admixture, if both are used.

Admixture use shall be according to the following.

- (1) When the atmosphere or concrete temperature is 65 °F (18 °C) or higher, a retarding admixture shall be used in the Class BS concrete and concrete bridge deck overlays. The proportions of the ingredients of the concrete shall be the same as without the retarding admixture, except that the amount of mixing water shall be reduced, as may be necessary, in order to maintain the consistency of the concrete as required. In addition, a high range water-reducing admixture shall be used in bridge deck concrete. At the option of the Contractor, a water-reducing admixture may be used with the high range water-reducing admixture in Class BS concrete.
- (2) At the Contractor's option, admixtures in addition to an air-entraining admixture may be used for Class PP-1 or RR concrete. When the air temperature is less than 55 °F (13 °C) and an accelerator is used, the non-chloride accelerator shall be calcium nitrite.

- (3) When Class C fly ash or ground granulated blast-furnace slag is used in Class PP-1 or RR concrete, a water-reducing or high range water-reducing admixture shall be used.
- (4) For Class PP-2 or PP-3 concrete, a non-chloride accelerator followed by a high range water-reducing admixture shall be used, in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture with the high range water-reducing admixture. For Class PP-3 concrete, the non-chloride accelerator shall be calcium nitrite. For Class PP-2 concrete, the non-chloride accelerator shall be calcium nitrite when the air temperature is less than 55 °F (13 °C).
- (5) For Class PP-4 concrete, a high range water-reducing admixture shall be used in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture with the high range water-reducing admixture. An accelerator shall not be used. For stationary or truck-mixed concrete, a retarding admixture shall be used to allow for haul time. The Contractor has the option to use a mobile portland cement concrete plant, but a retarding admixture shall not be used unless approved by the Engineer.

For PP-5 concrete, a non-chloride accelerator, high range water-reducing admixture, and air-entraining admixture shall be used. The accelerator, high range water-reducing admixture, and air-entraining admixture shall be per the Contractor's recommendation and dosage. The approved list of concrete admixtures shall not apply. A mobile portland cement concrete plant shall be used to produce the patching mixture.

- (6) When a calcium chloride accelerator is specified in the contract, the maximum chloride dosage shall be 1.0 quart (1.0 L) of solution per 100 lb (45 kg) of cement. The dosage may be increased to a maximum 2.0 quarts (2.0 L) per 100 lb (45 kg) of cement if approved by the Engineer. When a calcium chloride accelerator for Class PP-2 concrete is specified in the contract, the maximum chloride dosage shall be 1.3 quarts (1.3 L) of solution per 100 lb (45 kg) of cement. The dosage may be increased to a maximum 2.6 quarts (2.6 L) per 100 lb (45 kg) of cement if approved by the Engineer.
- (7) For Class DS concrete a retarding admixture and a high range water-reducing admixture shall be used. For dry excavations that are 10 ft (3 m) or less, the high range water-reducing admixture may be replaced with a water-reducing admixture if the concrete is vibrated. The use of admixtures shall take into consideration the slump loss limits specified in Article 516.12 and the fluidity requirement in Article 1020.04 (Note 12).
- (8) At the Contractor's option, when a water-reducing admixture or a high range water-reducing admixture is used for Class PV, PP-1, RR, SC, and SI concrete, the cement factor may be reduced a maximum 0.30 hundredweight/cu yd (18 kg/cu m). However, a cement factor reduction will not be allowed for concrete placed underwater.

- (9) When Type F or Type G high range water-reducing admixtures are used, the initial slump shall be a minimum of 1 1/2 in. (40 mm) prior to addition of the Type F or Type G admixture, except as approved by the Engineer.
- (10) When specified, a corrosion inhibitor shall be added to the concrete mixture utilized in the manufacture of precast, prestressed concrete members and/or other applications. It shall be added, at the same rate, to all grout around post-tensioning steel when specified.

When calcium nitrite is used, it shall be added at the rate of 4 gal/cu yd (20 L/cu m), and shall be added to the mix immediately after all compatible admixtures have been introduced to the batch.

When Rheocrete 222+ is used, it shall be added at the rate of 1.0 gal/cu yd (5.0 L/cu m), and the batching sequence shall be according to the manufacturer's instructions.

- (c) Finely Divided Minerals. Use of finely divided minerals shall be according to the following.

- (1) Fly Ash. At the Contractor's option, fly ash from approved sources may partially replace portland cement in cement aggregate mixture II, Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete.

The use of fly ash shall be according to the following.

- a. Measurements of fly ash and portland cement shall be rounded up to the nearest 5 lb (2.5 kg).
 - b. When Class F fly ash is used in cement aggregate mixture II, Class PV, BS, PC, PS, DS, SC, and SI concrete, the amount of portland cement replaced shall not exceed 25 percent by weight (mass).
 - c. When Class C fly ash is used in cement aggregate mixture II, Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete, the amount of portland cement replaced shall not exceed 30 percent by weight (mass).
 - d. Fly ash may be used in concrete mixtures when the air temperature is below 40 °F (4 °C), but the Engineer may request a trial batch of the concrete mixture to show the mix design strength requirement will be met.
- (2) Ground Granulated Blast-Furnace (GGBF) Slag. At the Contractor's option, GGBF slag may partially replace portland cement in Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete. For Class PP-3 concrete, GGBF slag shall be used according to Article 1020.04.

The use of GGBF slag shall be according to the following.

- a. Measurements of GGBF slag and portland cement shall be rounded up to the nearest 5 lb (2.5 kg).
 - b. When GGBF slag is used in Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC and SI concrete, the amount of portland cement replaced shall not exceed 35 percent by weight (mass).
 - c. GGBF slag may be used in concrete mixtures when the air temperature is below 40 °F (4 °C), but the Engineer may request a trial batch of the concrete mixture to show the mix design strength requirement will be met.
- (3) Microsilica. At the Contractor's option, microsilica may be added at a maximum of 5.0 percent by weight (mass) of the cement and finely divided minerals summed together.

Microsilica shall be used in Class PP-3 concrete according to Article 1020.04.

- (4) High Reactivity Metakaolin (HRM). At the Contractor's option, HRM may be added at a maximum of 5.0 percent by weight (mass) of the cement and finely divided minerals summed together.
- (5) Mixtures with Multiple Finely Divided Minerals. Except as specified for Class PP-3 concrete, the Contractor has the option to use more than one finely divided mineral in Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete as follows.
- a. The mixture shall contain a maximum of two finely divided minerals. The finely divided mineral in portland-pozzolan cement or portland blast-furnace slag cement shall count toward the total number of finely divided minerals allowed. The finely divided minerals shall constitute a maximum of 35.0 percent of the total cement plus finely divided minerals. The fly ash portion shall not exceed 30.0 percent for Class C fly ash or 25.0 percent for Class F fly ash. The Class C and F fly ash combination shall not exceed 30.0 percent. The ground granulated blast-furnace slag portion shall not exceed 35.0 percent. The microsilica or high-reactivity metakaolin portion used together or separately shall not exceed ten percent. The finely divided mineral in the portland-pozzolan cement or portland blast-furnace slag blended cement shall apply to the maximum 35.0 percent.
 - b. Central Mixed. For Class PV, SC, and SI concrete, the mixture shall contain a minimum of 565 lbs/cu yd (335 kg/cu m) of cement and finely divided minerals summed together. If a water-reducing or high-range water-reducing admixture is used, the Contractor has the option to use a minimum of 535 lbs/cu yd (320 kg/cu m).
 - c. Truck-Mixed or Shrink-Mixed. For Class PV, SC, and SI concrete, the mixture shall contain a minimum of 605 lbs/cu yd (360 kg/cu m) of cement and finely divided minerals summed together. If a water-reducing or high-range water-reducing admixture is used, the Contractor has the option to use a minimum of 575 lbs/cu yd (345 kg/cu m).

- d. Central-Mixed, Truck-Mixed or Shrink-Mixed. For Class PP-1 and RR concrete, the mixture shall contain a minimum of 650 lbs/cu yd (385 kg/cu m) of cement and finely divided minerals summed together. For Class PP-1 and RR concrete using Type III portland cement, the mixture shall contain a minimum of 620 lbs/cu yd (365 kg/cu m).

For Class PP-2 concrete, the mixture shall contain a minimum of 735 lbs/cu yd (435 kg/cu m) of cement and finely divided minerals summed together. For Class BS concrete, the mixture shall contain a minimum of 605 lbs/cu yd (360 kg/cu m). For Class DS concrete, the mixture shall contain a minimum of 665 lbs/cu yd (395 kg/cu m).

If a water-reducing or high range water-reducing admixture is used in Class PP-1 and RR concrete, the Contractor has the option to use a minimum of 620 lbs/cu yd (365 kg/cu m) of cement and finely divided minerals summed together. If a water-reducing or high-range water-reducing admixture is used with Type III portland cement in Class PP-1 and RR concrete, the Contractor has the option to use a minimum of 590 lbs/cu yd (350 kg/cu m).

- e. Central-Mixed or Truck-Mixed. For Class PC and PS concrete, the mixture shall contain a minimum of 565 lbs/cu yd (335 kg/cu m) of cement and finely divided minerals summed together.
- f. The mixture shall contain a maximum of 705 lbs/cu yd (418 kg/cu m) of cement and finely divided mineral(s) summed together for Class PV, BS, PC, PS, DS, SC, and SI concrete. For Class PP-1 and RR concrete, the mixture shall contain a maximum of 750 lbs/cu yd (445 kg/cu m). For Class PP-1 and RR concrete using Type III portland cement, the mixture shall contain a maximum of 720 lbs/cu yd (425 kg/cu m). For Class PP-2 concrete, the mixture shall contain a maximum of 820 lbs/cu yd (485 kg/cu m).
- g. For Class SC concrete and for any other class of concrete that is to be placed underwater, except Class DS concrete, the allowable cement and finely divided minerals summed together shall be increased by ten percent.
- h. The combination of cement and finely divided minerals shall comply with Article 1020.05(d).
- (d) Alkali-Silica Reaction. For cast-in-place (includes cement aggregate mixture II and latex mixtures), precast, and precast prestressed concrete, one of the mixture options provided in Article 1020.05(d)(2) shall be used to reduce the risk of a deleterious alkali-silica reaction in concrete exposed to humid or wet conditions. The mixture options are not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate, or sodium formate. The mixture options will not be required for the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy.

The mixture options shall not apply to concrete revetment mats, insertion lining of pipe culverts, portland cement mortar fairing course, controlled low-strength material, miscellaneous grouts that are not prepackaged, Class PP-3 concrete, Class PP-4 concrete, and Class PP-5 concrete.

- (1) Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

Aggregate Groups			
Coarse Aggregate or Coarse Aggregate Blend ASTM C 1260 Expansion	Fine Aggregate Or Fine Aggregate Blend ASTM C 1260 Expansion		
	≤0.16%	>0.16% - 0.27%	>0.27%
≤0.16%	Group I	Group II	Group III
>0.16% - 0.27%	Group II	Group II	Group III
>0.27%	Group III	Group III	Group IV

- (2) Mixture Options. Based upon the aggregate group, the following mixture options shall be used. However, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silica reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

Reduction of Risk for Deleterious Alkali-Silica Reaction					
Aggregate Groups	Mixture Options				
	Option 1	Option 2	Option 3	Option 4	Option 5
Group I	Mixture options are not applicable. Use any cement or finely divided mineral.				
Group II	X	X	X	X	X
Group III	X	Combine Option 2 with Option 3	Combine Option 2 with Option 3	X	X
Group IV	X	Combine Option 2 with Option 4	Invalid Option	Combine Option 2 with Option 4	X

“X” denotes valid mixture option for aggregate group.

- a. Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used. Coarse aggregate may only be blended with another coarse aggregate. Fine aggregate may only be blended with another fine aggregate. Blending of coarse with fine aggregate to place the material in another group will not be permitted.

When a coarse or fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;
A, B, C... = expansion value for that aggregate.

- b. Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow. In addition, a blended cement with a finely divided mineral may be added to a separate finely divided mineral to meet the following requirements, provided the finely divided minerals are the same material. However, adding together two different finely divided minerals to obtain the specified minimum percentage of one material will not be permitted for 1), 2), 3), and 4). Refer to Mixture Option 5 to address this situation.

1. Class F Fly Ash. For cement aggregate mixture II, Class PV, BS, PC, PS, MS, DS, SC and SI concrete, the Class F fly ash shall be a minimum 25.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent for the Class F fly ash, it may be used only if it complies with Mixture Option 5.

2. Class C Fly Ash. For cement aggregate mixture II, Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete, Class C fly ash shall be a minimum of 25.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent or the calcium oxide exceeds 26.50 percent for the Class C fly ash, it may be used only per Mixture Option 5.

3. Ground Granulated Blast-Furnace Slag. For Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete, ground granulated blast-furnace slag shall be a minimum of 25.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 1.00 percent for the ground granulated blast-furnace slag, it may be used only per Mixture Option 5.

4. Microsilica or High Reactivity Metakaolin, Microsilica solids or high reactivity metakaolin shall be a minimum 5.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 1.00 percent for the Microsilica or High Reactivity Metakaolin, it may be used only if it complies with Mixture Option 5.

- c. Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.60 percent. When aggregate in Group II is involved and the Contractor desires to use a finely divided mineral, any finely divided mineral may be used with the cement unless the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent for the fly ash; or 1.00 percent for the ground granulated blast-furnace slag, microsilica or high reactivity metakaolin. If the alkali content is exceeded, the finely divided mineral may be used only per Mixture Option 5.
- d. Mixture Option 4. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.45 percent. When aggregate in Group II or III is involved and the Contractor desires to use a finely divided mineral, any finely divided mineral may be used with the cement unless the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent for the fly ash; or 1.00 percent for the ground granulated blast-furnace slag, microsilica, or high reactivity metakaolin. If the alkali content is exceeded, the finely divided mineral may be used only per Mixture Option 5.
- e. Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is ≤ 0.16 percent when performed on the aggregate in the concrete mixture with the highest ASTM C 1260 test result. The laboratory performing the ASTM C 1567 test shall be approved by the Department according to the current Bureau of Materials and Physical Research Policy Memorandum "Minimum Laboratory Requirements for Alkali-Silica Reactivity (ASR) Testing". The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly.

For latex concrete, the ASTM C 1567 test shall be performed without the latex.

The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$), a new ASTM C 1567 test will not be required.

The Engineer reserved the right to verify a Contractor's ASTM C 1567 test result. When the Contractor performs the test, a split sample may be requested by the Engineer. The Engineer may also independently obtain a sample at any time. The proposed cement or finely divided mineral will not be allowed for use if the Contractor or Engineer obtains an expansion value greater than 0.16 percent.

1020.06 Water/Cement Ratio. The water/cement ratio shall be determined on a weight (mass) basis. When a maximum water/cement ratio is specified, the water shall include mixing water, water in admixtures, free moisture on the aggregates, and water added at the jobsite. The quantity of water may be adjusted within the limit specified to meet slump requirements.

When fly ash, ground granulated blast-furnace slag, high-reactivity metakaolin, or microsilica (silica fume) are used in a concrete mix, the water/cement ratio will be based on the total cement and finely divided minerals contained in the mixture.

1020.07 Slump. The slump shall be determined according to Illinois Modified AASHTO T 119.

If the measured slump falls outside the limits specified, a check test will be made. In the event of a second failure, the Engineer may refuse to permit the use of the batch of concrete represented.

If the Contractor is unable to add water to prepare concrete of the specified slump without exceeding the maximum design water/cement ratio, a water-reducing admixture shall be added.

1020.08 Air Content. The air content shall be determined according to Illinois Modified AASHTO T 152 or Illinois Modified AASHTO T 196. The air-entrainment shall be obtained by the use of cement with an approved air-entraining admixture added during the mixing of the concrete or the use of air-entraining cement.

If the air-entraining cement furnished is found to produce concrete having air content outside the limits specified, its use shall be discontinued immediately and the Contractor shall provide other air-entraining cement which will produce air contents within the specified limits.

If the air content obtained is above the specified maximum limit at the jobsite, the Contractor may have the concrete further mixed, within the limits of time and revolutions specified, to reduce the air content. If the air content obtained is below the specified minimum limit, the Contractor may add to the concrete a sufficient quantity of an approved air-entraining admixture at the jobsite to bring the air content within the specified limits.

1020.09 Strength Tests. The specimens shall be molded and cured according to Illinois Modified AASHTO T 23. Specimens shall be field cured with the construction item as specified in Illinois Modified AASHTO T 23. The compressive strength shall be determined according to Illinois Modified AASHTO T 22. The flexural strength shall be determined according to Illinois Modified AASHTO T 177.

Except for Class PC and PS concrete, the Contractor shall transport the strength specimens from the site of the work to the field laboratory or other location as instructed by the Engineer. During transportation in a suitable light truck, the specimens shall be embedded in straw, burlap, or other acceptable material in a manner meeting with the approval of the Engineer to protect them from damage; care shall be taken to avoid impacts during hauling and handling. For strength specimens, the Contractor shall provide a field curing box for initial curing and a water storage tank for final curing. The field curing box will be required when an air temperature below 60 °F (16 °C) is expected during the initial curing period. The device shall maintain the initial curing temperature range specified in Illinois Modified AASHTO T 23, and may be insulated or power operated as appropriate.

1020.10 Handling, Measuring, and Batching Materials. Aggregates shall be handled in a manner to prevent mixing with soil and other foreign material.

Aggregates shall be handled in a manner which produces a uniform gradation, before placement in the plant bins. Aggregates delivered to the plant in a nonuniform gradation condition shall be stockpiled. The stockpiled aggregate shall be mixed uniformly before placement in the plant bins.

Aggregates shall have a uniform moisture content before placement in the plant bins. This may require aggregates to be stockpiled for 12 hours or more to allow drainage, or water added to the stockpile, or other methods approved by the Engineer. Moisture content requirements for crushed concrete, crushed slag or lightweight aggregate shall be according to Article 1004.01(e)(5).

Aggregates, cement, and finely divided minerals shall be measured by weight (mass). Water and admixtures shall be measured by volume or weight (mass).

The Engineer may permit aggregates, cement, and finely divided minerals to be measured by volume for small isolated structures and for miscellaneous items. Aggregates, cement, and finely divided minerals shall be measured individually. The volume shall be based upon dry, loose materials.

1020.11 Mixing Portland Cement Concrete. The mixing of concrete shall be according to the following.

- (a) Ready-Mixed Concrete. Ready-mixed concrete is central-mixed, truck-mixed, or shrink-mixed concrete transported and delivered in a plastic state ready for placement in the work and shall be according to the following.
 - (1) Central-Mixed Concrete. Central-mixed concrete is concrete which has been completely mixed in a stationary mixer and delivered in a truck agitator, a truck mixer operating at agitating speed, or a nonagitator truck.

The stationary mixer shall operate at the drum speed for which it was designed. The batch shall be charged into the drum so that some of the water shall enter in advance of the cement, finely divided minerals, and aggregates. The flow of the water shall be uniform and all water shall be in the drum by the end of the first 15 seconds of the mixing period. Water shall begin to enter the drum from zero to two seconds in advance of solid material and shall stop flowing within two seconds of the beginning of mixing time.

Some coarse aggregate shall enter in advance of other solid materials. For the balance of the charging time for solid materials, the aggregates, finely divided minerals, and cement (to assure thorough blending) shall each flow at acceptably uniform rates, as determined by visual observation. Coarse aggregate shall enter two seconds in advance of other solid materials and a uniform rate of flow shall continue to within two seconds of the completion of charging time.

The entire contents of the drum, or of each single compartment of a multiple-drum mixer, shall be discharged before the succeeding batch is introduced.

The volume of concrete mixed per batch shall not exceed the mixer's rated capacity as shown on the standard rating plate on the mixer by more than ten percent.

The minimum mixing time shall be 75 seconds for a stationary mixer having a capacity greater than 2 cu yd (1.5 cu m). For a mixer with a capacity equal to or less than 2 cu yd (1.5 cu m) the mixing time shall be 60 seconds. Transfer time in multiple drum mixers is included in the mixing time. Mixing time shall begin when all materials are in the mixing compartment and shall end when the discharge of any part of the batch is started. The required mixing times will be established by the Engineer for all types of stationary mixers.

When central-mixed concrete is to be transported in a truck agitator or a truck mixer, the stationary-mixed batch shall be transferred to the agitating unit without delay and without loss of any portion of the batch. Agitating shall start immediately thereafter and shall continue without interruption until the batch is discharged from the agitator. The ingredients of the batch shall be completely discharged from the agitator before the succeeding batch is introduced. Drums and auxiliary parts of the equipment shall be kept free from accumulations of materials.

The vehicles used for transporting the mixed concrete shall be of such capacity, or the batches shall be so proportioned, that the entire contents of the mixer drum can be discharged into each vehicle load.

- (2) Truck-Mixed Concrete. Truck-mixed concrete is completely mixed and delivered in a truck mixer. When the mixer is charged with fine and coarse aggregates simultaneously, not less than 60 nor more than 100 revolutions of the drum or blades at mixing speed shall be required, after all of the ingredients including water are in the drum. When fine and coarse aggregates are charged separately, not less than 70 revolutions will be required. For self-consolidating concrete, a minimum of 100 revolutions is required in all cases. Additional mixing beyond 100 revolutions shall be at agitating speed unless additions of water, admixtures, or other materials are made at the jobsite. The mixing operation shall begin immediately after the cement and water, or the cement and wet aggregates, come in contact. The ingredients of the batch shall be completely discharged from the drum before the succeeding batch is introduced. The drum and auxiliary parts of the equipment shall be kept free from accumulations of materials. If additional water or an admixture is added at the jobsite, the concrete batch shall be mixed a minimum of 40 additional revolutions after each addition.
- (3) Shrink-Mixed Concrete. Shrink-mixed concrete is mixed partially in a stationary mixer and completed in a truck mixer for delivery. The mixing time of the stationary mixer may be reduced to a minimum of 30 seconds to intermingle the ingredients, before transferring to the truck mixer. All ingredients for the batch shall be in the stationary mixer and partially mixed before any of the mixture is discharged into the truck mixer. The partially mixed batch shall be transferred to the truck mixer without delay and without loss of any portion of the batch, and mixing in the truck mixer shall start immediately. The mixing time in the truck mixer shall be not less than 50 nor more than 100 revolutions of the drum or blades at mixing speed. For self-consolidating concrete, a minimum of 100 revolutions is required in the truck mixer. Additional mixing beyond 100 revolutions shall be at agitating speed, unless additions of water, admixtures, or other materials are made at the jobsite. Units designed as agitators shall not be used for shrink mixing. The ingredients of the batch shall be completely discharged from the drum before the succeeding batch is introduced. The drum and auxiliary parts of the equipment shall be kept free from accumulations of materials. If additional water or an admixture is added at the jobsite, the concrete batch shall be mixed a minimum of 40 additional revolutions after each addition.
- (4) Mixing Water. Wash water shall be completely discharged from the drum or container before a batch is introduced. All mixing water shall be added at the plant and any adjustment of water at the jobsite by the Contractor shall not exceed the specified maximum water/cement ratio or slump. If strength specimens have been made for a batch of concrete, and subsequently during discharge there is more water added, additional strength specimens shall be made for the batch of concrete. No additional water may be added at the jobsite to central-mixed concrete if the mix design has less than 565 lbs/cu yd (335 kg/cu m) of cement and finely divided minerals summed together.
- (5) Mixing and Agitating Speeds. The mixing or agitating speeds used for truck mixers or truck agitators shall be per the manufacturer's rating plate.

- (6) Capacities. The volume of plastic concrete in a given batch will be determined according to AASHTO T 121, based on the total weight (mass) of the batch, determined either from the weight (masses) of all materials, including water, entering the batch or directly from the net weight (mass) of the concrete in the batch as delivered.

The volume of mixed concrete in truck mixers or truck agitators shall in no case be greater than the rated capacity determined according to the Truck Mixer, Agitator, and Front Discharge Concrete Carrier Standards of the Truck Mixer Manufacturer's Bureau, as shown by the rating plate attached to the truck. If the truck mixer does not have a rating plate, the volume of mixed concrete shall not exceed 63 percent of the gross volume of the drum or container, disregarding the blades. For truck agitators, the value is 80 percent.

- (7) Time of Haul. Haul time shall begin when the delivery ticket is stamped. The delivery ticket shall be stamped no later than five minutes after the addition of the mixing water to the cement, or after the addition of the cement to the aggregate when the combined aggregates contain free moisture in excess of two percent by weight (mass). If more than one batch is required for charging a truck using a stationary mixer, the time of haul shall start with mixing of the first batch. Haul time shall end when the truck is emptied for incorporation of the concrete into the work.

The time elapsing from when water is added to the mix until it is deposited in place at the site of the work shall not exceed 30 minutes when the concrete is transported in nonagitating trucks.

The maximum haul time for concrete transported in truck mixers or truck agitators shall be according to the following.

Concrete Temperature at Point of Discharge °F (°C)	Haul Time	
	Hours	Minutes
50-64 (10-17.5)	1	30
>64 (>17.5) - without retarder	1	0
>64 (>17.5) - with retarder	1	30

To encourage start-up testing for mix adjustments at the plant, the first two trucks will be allowed an additional 15 minutes haul time whenever such testing is performed.

For a mixture which is not mixed on the jobsite, a delivery ticket shall be required for each load. The following information shall be recorded on each delivery ticket: (1) ticket number; (2) name of producer and plant location; (3) contract number; (4) name of Contractor; (5) stamped date and time batched; (6) truck number; (7) quantity batched; (8) amount of admixture(s) in the batch; (9) amount of water in the batch; and (10) Department mix design number.

For concrete mixed in jobsite stationary mixers, the above delivery ticket may be waived, but a method of verifying the haul time shall be established to the satisfaction of the Engineer.

- (8) Production and Delivery. The production of ready-mixed concrete shall be such that the operations of placing and finishing will be continuous insofar as the job operations require. The Contractor shall be responsible for producing concrete that will have the required workability, consistency, and plasticity when delivered to the work. Concrete which is unsuitable for placement as delivered will be rejected. The Contractor shall minimize the need to adjust the mixture at the jobsite, such as adding water and admixtures prior to discharging.
- (9) Use of Multiple Plants in the Same Construction Item. The Contractor may simultaneously use central-mixed, truck-mixed, and shrink-mixed concrete from more than one plant, for the same construction item, on the same day, and in the same pour. However, the following criteria shall be met.
 - a. Each plant shall use the same cement, finely divided minerals, aggregates, admixtures, and fibers.
 - b. Each plant shall use the same mix design. However, material proportions may be altered slightly in the field to meet slump and air content criteria. Field water adjustments shall not result in a difference that exceeds 0.02 between plants for water/cement ratio. The required cement factor for central-mixed concrete shall be increased to match truck-mixed or shrink-mixed concrete, if the latter two types of mixed concrete are used in the same pour.
 - c. The maximum slump difference between deliveries of concrete shall be 3/4 in. (19 mm) when tested at the jobsite. If the difference is exceeded, but test results are within specification limits, the concrete may be used. The Contractor shall take immediate corrective action and shall test subsequent deliveries of concrete until the slump difference is corrected. For each day, the first three truck loads of delivered concrete from each plant shall be tested for slump by the Contractor. Thereafter, when a specified test frequency for slump is to be performed, it shall be conducted for each plant at the same time.
 - d. The maximum air content difference between deliveries of concrete shall be 1.5 percent when tested at the jobsite. If the difference is exceeded, but test results are within specification limits, the concrete may be used. The Contractor shall take immediate corrective action and shall test subsequent deliveries of concrete until the air content difference is corrected. For each day, the first three truck loads of delivered concrete from each plant shall be tested for air content by the Contractor. Thereafter, when a specified test frequency for air content is to be performed, it shall be conducted for each plant at the same time.

- e. Strength tests shall be performed and taken at the jobsite for each plant. When a specified strength test is to be performed, it shall be conducted for each plant at the same time. The difference between plants for strength shall not exceed 900 psi (6200 kPa) compressive and 90 psi (620 kPa) flexural. If the strength difference requirements are exceeded, the Contractor shall take corrective action.
 - f. The maximum haul time difference between deliveries of concrete shall be 15 minutes. If the difference is exceeded, but haul time is within specification limits, the concrete may be used. The Contractor shall take immediate corrective action and check subsequent deliveries of concrete.
- (b) Class PC Concrete. The concrete shall be central-mixed or truck-mixed. Variations in plastic concrete properties shall be minimized between batches.
- (c) Class PV Concrete. The concrete shall be central-mixed, truck-mixed, or shrink-mixed.

The required mixing time for stationary mixers with a capacity greater than 2 cu yd (1.5 cu m) may be less than 75 seconds upon satisfactory completion of a mixer performance test. Mixer performance tests may be requested by the Contractor when the quantity of concrete to be placed exceeds 50,000 sq yd (42,000 sq m). The testing shall be conducted according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Field Test Procedures for Mixer Performance and Concrete Uniformity Tests".

The Contractor will be allowed to test two mixing times within a range of 50 to 75 seconds. If satisfactory results are not obtained from the required tests, the mixing time shall continue to be 75 seconds for the remainder of the contract. If satisfactory results are obtained, the mixing time may be reduced. In no event will mixing time be less than 50 seconds.

The Contractor shall furnish the labor, equipment, and material required to perform the testing according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Field Test Procedures for Mixer Performance and Concrete Uniformity Tests".

A contract which has 12 ft (3.6 m) wide pavement or base course, and a continuous length of 1/2 mile (0.8 km) or more, shall have the following additional requirements.

- (1) The plant and truck delivery operation shall be able to provide a minimum of 50 cu yd (38 cu m) of concrete per hour.
 - (2) The plant shall have automatic or semi-automatic batching equipment.
- (d) All Other Classes of Concrete. The concrete shall be central-mixed, truck-mixed, or shrink-mixed concrete.

1020.12 Mobile Portland Cement Concrete Plants. The use of a mobile portland cement concrete plant may be approved under the provisions of Article 1020.10 for volumetric proportioning in small isolated structures, thin overlays, and for miscellaneous and incidental concrete items.

The first 1 cu ft (0.03 cu m) of concrete produced may not contain sufficient mortar and shall not be incorporated in the work. The side plate on the cement feeder shall be removed periodically (normally the first time the mixer is used each day) to see if cement is building up on the feed drum.

Sufficient mixing capacity of mixers shall be provided to enable continuous placing and finishing insofar as the job operations and the specifications require.

Slump and air tests made immediately after discharge of the mix may be misleading, since the aggregates may absorb a significant amount of water for four or five minutes after mixing.

1020.13 Curing and Protection. The method of curing, curing period, and method of protection for each type of concrete construction is included in the following Index Table.

INDEX TABLE OF CURING AND PROTECTION OF CONCRETE CONSTRUCTION			
TYPE OF CONSTRUCTION	CURING METHODS	CURING PERIOD DAYS	LOW AIR TEMPERATURE PROTECTION METHODS
Cast-in-Place Concrete ^{11/}			
Pavement Shoulder	1020.13(a)(1)(2)(3)(4)(5) ^{3/ 5/}	3	1020.13(c)
Base Course			
Base Course Widening	1020.13(a)(1)(2)(3)(4)(5) ^{2/}	3	1020.13(c)
Driveway			
Median			
Barrier			
Curb			
Gutter	1020.13(a)(1)(2)(3)(4)(5) ^{4/ 5/}	3	1020.13(c) ^{16/}
Curb & Gutter			
Sidewalk			
Slope Wall			
Paved Ditch			
Catch Basin			
Manhole	1020.13(a)(1)(2)(3)(4)(5) ^{4/}	3	1020.13(c)
Inlet			
Valve Vault			
Pavement Patching	1020.13(a)(1)(2)(3)(4)(5) ^{2/}	3 ^{12/}	1020.13(c)
Bridge Deck Patching	1020.13(a)(3)(5)	3 or 7 ^{12/}	1020.13(c)
Railroad Crossing	1020.13(a)(3)(5)	1	1020.13(c)
Piles and Drilled Shafts	1020.13(a)(3)(5)	7	1020.13(d)(1)(2)(3)
Foundations & Footings			
Seal Coat	1020.13(a)(1)(2)(3)(4)(5) ^{4/ 6/}	7	1020.13(d)(1)(2)(3)
Substructure	1020.13(a)(1)(2)(3)(4)(5) ^{1/ 7/}	7	1020.13(d)(1)(2)(3)
Superstructure (except deck)	1020.13(a)(1)(2)(3)(5) ^{8/}	7	1020.13(d)(1)(2)
Deck			
Bridge Approach Slab	1020.13(a)(5)	7	1020.13(d)(1)(2) ^{17/}
Retaining Walls	1020.13(a)(1)(2)(3)(4)(5) ^{1/ 7/}	7	1020.13(d)(1)(2)
Pump Houses	1020.13(a)(1)(2)(3)(4)(5) ^{1/}	7	1020.13(d)(1)(2)
Culverts	1020.13(a)(1)(2)(3)(4)(5) ^{4/ 6/}	7	1020.13(d)(1)(2) ^{18/}
Other Incidental Concrete	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
Precast Concrete ^{11/}			
Bridge Slabs			
Piles and Pile Caps	1020.13(a)(3)(5) ^{9/ 10/}	As ^{13/}	9/
Other Structural Members		Required	
All Other Precast Items	1020.13(a)(3)(4)(5) ^{2/ 9/ 10/}	As ^{14/}	9/
		Required	
Precast, Prestressed Concrete ^{11/}			
All Items	1020(a)(3)(5) ^{9/ 10/}	Until Strand Tensioning is Released ^{15/}	9/

Notes-General:

- 1/ Type I, membrane curing only
- 2/ Type II, membrane curing only
- 3/ Type III, membrane curing only
- 4/ Type I, II and III membrane curing
- 5/ Membrane Curing will not be permitted between November 1 and April 15.

- 6/ The use of water to inundate foundations and footings, seal coats or the bottom slab of culverts is permissible when approved by the Engineer, provided the water temperature can be maintained at 45 °F (7 °C) or higher.
- 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).
- 8/ On non-traffic surfaces which receive protective coat according to Article 503.19, a linseed oil emulsion curing compound may be used as a substitute for protective coat and other curing methods. The linseed oil emulsion curing compound will be permitted between April 16 and October 31 of the same year, provided it is applied with a mechanical sprayer according to Article 1101.09(b).
- 9/ Steam, supplemental heat, or insulated blankets (with or without steam/supplemental heat) are acceptable and shall be according to the Bureau of Materials and Physical Research's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products" and the "Manual for Fabrication of Precast, Prestressed Concrete Products".
- 10/ A moist room according to AASHTO M 201 is acceptable for curing.
- 11/ If curing is required and interrupted because of form removal for cast-in-place concrete items, precast concrete products, or precast prestressed concrete products, the curing shall be resumed within two hours from the start of the form removal.
- 12/ Curing maintained only until opening strength is attained for pavement patching, with a maximum curing period of three days. For bridge deck patching the curing period shall be three days if Class PP concrete is used and 7 days if Class BS concrete is used.
- 13/ The curing period shall end when the concrete has attained the mix design strength. The producer has the option to discontinue curing when the concrete has attained 80 percent of the mix design strength or after seven days. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.
- 14/ The producer shall determine the curing period or may elect to not cure the product. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.
- 15/ The producer has the option to continue curing after strand release.
- 16/ When structural steel or structural concrete is in place above slope wall, Article 1020.13(c) shall not apply. The protection method shall be according to Article 1020.13(d)(1).

17/ When Article 1020.13(d)(2) is used to protect the deck, the housing may enclose only the bottom and sides. The top surface shall be protected according to Article 1020.13(d)(1).

18/ For culverts having a waterway opening of 10 sq ft (1 sq m) or less, the culverts may be protected according to Article 1020.13(d)(3).

(a) Methods of Curing. Except as provided for in the Index Table of Curing and Protection of Concrete Construction, curing shall be accomplished by one of the following described methods. When water is required to wet the surface, it shall be applied as a fine spray so that it will not mar or pond on the surface. Except where otherwise specified, the curing period shall be at least 72 hours.

(1) Waterproof Paper Method. The surface of the concrete shall be covered with waterproof paper as soon as the concrete has hardened sufficiently to prevent marring the surface. The surface of the concrete shall be wetted immediately before the paper is placed. The blankets shall be lapped at least 12 in. (300 mm) end to end, and these laps shall be securely weighted with a windrow of earth, or other approved method, to form a closed joint. The same requirements shall apply to the longitudinal laps where separate strips are used for curing edges, except the lap shall be at least 9 in. (225 mm). The edges of the blanket shall be weighted securely with a continuous windrow of earth or any other means satisfactory to the Engineer to provide an air-tight cover. Any torn places or holes in the paper shall be repaired immediately by patches cemented over the openings, using a bituminous cement having a melting point of not less than 180 °F (82 °C). The blankets may be reused, provided they are air-tight and kept serviceable by proper repairs.

A longitudinal pleat shall be provided in the blanket to permit shrinkage where the width of the blanket is sufficient to cover the entire surface. The pleat will not be required where separate strips are used for the edges. Joints in the blanket shall be sewn or cemented together in such a manner that they will not separate during use.

(2) Polyethylene Sheeting Method. The surface of the concrete shall be covered with white polyethylene sheeting as soon as the concrete has hardened sufficiently to prevent marring the surface. The surface of the concrete shall be wetted immediately before the sheeting is placed. The edges of the sheeting shall be weighted securely with a continuous windrow of earth or any other means satisfactory to the Engineer to provide an air-tight cover. Adjoining sheets shall overlap not less than 12 in. (300 mm) and the laps shall be securely weighted with earth, or any other means satisfactory to the Engineer, to provide an air tight cover. For surface and base course concrete, the polyethylene sheets shall be not less than 100 ft (30 m) in length nor longer than can be conveniently handled, and shall be of such width that, when in place, they will cover the full width of the surface, including the edges, except that separate strips may be used to cover the edges. Any tears or holes in the sheeting shall be repaired. When sheets are no longer serviceable as a single unit, the Contractor may select from such sheets and reuse those which will serve for further applications, provided two sheets are used as a single unit; however, the double sheet units will be rejected when the Engineer deems that they no longer provide an air tight cover.

- (3) Wetted Burlap Method. The surface of the concrete shall be covered with wetted burlap blankets as soon as the concrete has hardened sufficiently to prevent marring the surface. The blankets shall overlap 6 in. (150 mm). At least two layers of wetted burlap shall be placed on the finished surface. The burlap shall be kept saturated by means of a mechanically operated sprinkling system. In place of the sprinkling system, at the Contractor's option, two layers of burlap covered with impermeable covering shall be used. The burlap shall be kept saturated with water. Plastic coated burlap may be substituted for one layer of burlap and impermeable covering.

The blankets shall be placed so that they are in contact with the edges of the concrete, and that portion of the material in contact with the edges shall be kept saturated with water.

- (4) Membrane Curing Method. Membrane curing will not be permitted where a protective coat, concrete sealer, or waterproofing is to be applied, or at areas where rubbing or a normal finish is required, or at construction joints other than those necessary in pavement or base course. Concrete at these locations shall be cured by another method specified in Article 1020.13(a).

After all finishing work to the concrete surface has been completed, it shall be sealed with membrane curing compound of the type specified within ten minutes. The seal shall be maintained for the specified curing period. The edges of the concrete shall, likewise, be sealed within ten minutes after the forms are removed. Two separate applications, applied at least one minute apart, each at the rate of not less than 1 gal/250 sq ft (0.16 L/sq m) will be required upon the surfaces and edges of the concrete. These applications shall be made with the mechanical equipment specified. Type III compound shall be agitated immediately before and during the application.

At locations where the coating is discontinuous or where pin holes show or where the coating is damaged due to any cause and on areas adjacent to sawed joints, immediately after sawing is completed, an additional coating of membrane curing compound shall be applied at the above specified rate. The equipment used may be of the same type as that used for coating variable widths of pavement. Before the additional coating is applied adjacent to sawed joints, the cut faces of the joint shall be protected by inserting a suitable flexible material in the joint, or placing an adhesive width of impermeable material over the joint, or by placing the permanent sealing compound in the joint. Material, other than the permanent sealing compound, used to protect cut faces of the joint, shall remain in place for the duration of the curing period. In lieu of applying the additional coating, the area of the sawed joint may be cured according to any other method permitted.

When rain occurs before an application of membrane curing compound has dried, and the coating is damaged, the Engineer may require another application be made in the same manner and at the same rate as the original coat. The Engineer may order curing by another method specified, if unsatisfactory results are obtained with membrane curing compound.

- (5) **Wetted Cotton Mat Method.** After the surface of concrete has been textured or finished, it shall be covered immediately with dry or damp cotton mats. The cotton mats shall be placed in a manner which will not mar the concrete surface. A texture resulting from the cotton mat material is acceptable. The cotton mats shall then be wetted immediately and thoroughly soaked with a gentle spray of water. For bridge decks, a foot bridge shall be used to place and wet the cotton mats.

The cotton mats shall be maintained in a wetted condition until the concrete has hardened sufficiently to place soaker hoses without marring the concrete surface. The soaker hoses shall be placed on top of the cotton mats at a maximum 4 ft (1.2 m) spacing. The cotton mats shall be kept wet with a continuous supply of water for the remainder of the curing period. Other continuous wetting systems may be used if approved by the Engineer.

After placement of the soaker hoses, the cotton mats shall be covered with white polyethylene sheeting or burlap-polyethylene blankets.

For construction items other than bridge decks, soaker hoses or a continuous wetting system will not be required if the alternative method keeps the cotton mats wet. Periodic wetting of the cotton mats is acceptable.

For areas inaccessible to the cotton mats on bridge decks, curing shall be according to Article 1020.13(a)(3).

- (b) **Removing and Replacing Curing Covering.** When curing methods specified above in Article 1020.13(a), (1), (2), or (3) are used for concrete pavement, the curing covering for each day's paving shall be removed to permit testing of the pavement surface with a profilograph or straightedge, as directed by the Engineer.

Immediately after testing, the surface of the pavement shall be wetted thoroughly and the curing coverings replaced. The top surface and the edges of the concrete shall not be left unprotected for a period of more than 1/2 hour.

- (c) **Protection of Concrete, Other Than Structures, From Low Air Temperatures.** When the official National Weather Service forecast for the construction area predicts a low of 32 °F (0 °C), or lower, or if the actual temperature drops to 32 °F (0 °C), or lower, concrete less than 72 hours old shall be provided at least the following protection.

Minimum Temperature	Protection
25 – 32 °F (-4 – 0 °C)	Two layers of polyethylene sheeting, one layer of polyethylene and one layer of burlap, or two layers of waterproof paper.
Below 25 °F (-4 °C)	6 in. (150 mm) of straw covered with one layer of polyethylene sheeting or waterproof paper.

These protective covers shall remain in place until the concrete is at least 96 hours old. When straw is required on pavement cured with membrane curing compound, the compound shall be covered with a layer of burlap, polyethylene sheeting or waterproof paper before the straw is applied.

After September 15, there shall be available to the work within four hours, sufficient clean, dry straw to cover at least two days production. Additional straw shall be provided as needed to afford the protection required. Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced.

- (d) Protection of Concrete Structures From Low Air Temperatures. When the official National Weather Service forecast for the construction area predicts a low below 45 °F (7 °C), or if the actual temperature drops below 45 °F (7 °C), concrete less than 72 hours old shall be provided protection. Concrete shall also be provided protection when placed during the winter period of December 1 through March 15. Concrete shall not be placed until the materials, facilities, and equipment for protection are approved by the Engineer.

When directed by the Engineer, the Contractor may be required to place concrete during the winter period. When winter construction is specified, the Contractor shall proceed with the construction, including excavation, pile driving, concrete, steel erection, and all appurtenant work required for the complete construction of the item, except at times when weather conditions make such operations impracticable.

Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced.

- (1) Protection Method I. The concrete shall be completely covered with insulating material such as fiberglass, rock wool, or other approved commercial insulating material having the minimum thermal resistance R, as defined in ASTM C 168, for the corresponding minimum dimension of the concrete unit being protected as shown in the following table.

Minimum Pour Dimension		Thermal Resistance R
in.	(mm)	
6 or less	(150 or less)	R=16
> 6 to 12	(> 150 to 300)	R=10
> 12 to 18	(> 300 to 450)	R=6
> 18	(> 450)	R=4

The insulating material manufacturer shall clearly mark the insulating material with the thermal resistance R value.

The insulating material shall be completely enclosed on sides and edges with an approved waterproof liner and shall be maintained in a serviceable condition. Any tears in the liner shall be repaired in a manner approved by the Engineer. The Contractor shall provide means for checking the temperature of the surface of the concrete during the protection period.

On formed surfaces, the insulating material shall be attached to the outside of the forms with wood cleats or other suitable means to prevent any circulation of air under the insulation and shall be in place before the concrete is placed. The blanket insulation shall be applied tightly against the forms. The edges and ends shall be attached so as to exclude air and moisture. If the blankets are provided with nailing flanges, the flanges shall be attached to the studs with cleats. Where tie rods or reinforcement bars protrude, the areas adjacent to the rods or bars shall be adequately protected in a manner satisfactory to the Engineer. Where practicable, the insulation shall overlap any previously placed concrete by at least 1 ft (300 mm). Insulation on the underside of floors on steel members shall cover the top flanges of supporting members. On horizontal surfaces, the insulating material shall be placed as soon as the concrete has set, so that the surface will not be marred and shall be covered with canvas or other waterproof covering. The insulating material shall remain in place for a period of seven days after the concrete is placed.

The Contractor may remove the forms, providing the temperature is 35 °F (2 °C) and rising and the Contractor is able to wrap the particular section within two hours from the time of the start of the form removal. The insulation shall remain in place for the remainder of the seven days curing period.

- (2) Protection Method II. The concrete shall be enclosed in adequate housing and the air surrounding the concrete kept at a temperature of not less than 50 °F (10 °C) nor more than 80 °F (27 °C) for a period of seven days after the concrete is placed. The Contractor shall provide means for checking the temperature of the surface of the concrete or air temperature within the housing during the protection period. All exposed surfaces within the housing shall be cured according to the Index Table.

The Contractor shall provide adequate fire protection where heating is in progress and such protection shall be accessible at all times. The Contractor shall maintain labor to keep the heating equipment in continuous operation.

At the close of the heating period, the temperature shall be decreased to the approximate temperature of the outside air at a rate not to exceed 15 °F (8 °C) per 12 hour period, after which the housing maybe removed. The surface of the concrete shall be permitted to dry during the cooling period.

- (3) Protection Method III. As soon as the surface is sufficiently set to prevent marring, the concrete shall be covered with 12 in. (300 mm) of loose, dry straw followed by a layer of impermeable covering. The edges of the covering shall be sealed to prevent circulation of air and prevent the cover from flapping or blowing. The protection shall remain in place until the concrete is seven days old. If construction operations require removal, the protection removed shall be replaced immediately after completion or suspension of such operations.

1020.14 Temperature Control for Placement. Temperature control for concrete placement shall be according to the following.

- (a) Concrete other than Structures. Concrete may be placed when the air temperature is above 35 °F (2 °C) and rising, and concrete placement shall stop when the falling temperature reaches 40 °F (4 °C) or below, unless otherwise approved by the Engineer.

The temperature of 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). A maximum concrete temperature shall not apply to Class PP concrete.

- (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.

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.

- (c) All Classes of Concrete. Aggregates and water shall be heated or cooled uniformly and as necessary to produce concrete within the specified temperature limits. No frozen aggregates shall be used in the concrete.
- (d) Temperature. The concrete temperature shall be determined according to Illinois Modified AASHTO T 309.

1020.15 Heat of Hydration Control for Concrete Structures. The Contractor shall control the heat of hydration for concrete structures when the least dimension for a drilled shaft, foundation, footing, substructure, or superstructure concrete pour exceeds 5.0 ft (1.5 m). The work shall be according to the following.

- (a) Temperature Restrictions. The maximum temperature of the concrete after placement shall not exceed 150 °F (66 °C). The maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface shall not exceed 35 °F (19 °C). The Contractor shall perform temperature monitoring to ensure compliance with the temperature restrictions.

(b) Thermal Control Plan. The Contractor shall provide a thermal control plan a minimum of 28 calendar days prior to concrete placement for review by the Engineer. Acceptance of the thermal control plan by the Engineer shall not preclude the Contractor from specification compliance, and from preventing cracks in the concrete. At a minimum, the thermal control plan shall provide detailed information on the following requested items and shall comply with the specific specifications indicated for each item.

(1) Concrete mix design(s) to be used. Grout mix design if post-cooling with embedded pipe.

The mix design requirements in Articles 1020.04 and 1020.05 shall be revised to include the following additional requirements to control the heat of hydration.

- a. The concrete mixture should be uniformly graded and preference for larger size aggregate should be used in the mix design. Article 1004.02(d)(2) shall apply and information in the "Portland Cement Concrete Level III Technician Course – Manual of Instructions for Design of Concrete Mixtures" may be used to develop the uniformly graded mixture.
- b. The following shall apply to all concrete except Class DS concrete or when self-consolidating concrete is desired. For central-mixed concrete, the Contractor shall have the option to develop a mixture with a minimum of 520 lbs/cu yd (309 kg/cu m) of cement and finely divided minerals summed together. For truck-mixed or shrink-mixed concrete, the Contractor shall have the option to develop a mixture with a minimum of 550 lbs/cu yd (326 kg/cu m) of cement and finely divided minerals summed together. A water-reducing or high range water-reducing admixture shall be used in the central mixed, truck-mixed or shrink-mixed concrete mixture. For any mixture to be placed underwater, the minimum cement and finely divided minerals shall be 550 lbs/cu yd (326 kg/cu m) for central-mixed concrete, and 580 lbs/cu yd (344 kg/cu m) for truck-mixed or shrink-mixed concrete.

For Class DS concrete, CA 11 may be used. If CA 11 is used, the Contractor shall have the option to develop a mixture with a minimum cement and finely divided minerals of 605 lbs/cu yd (360 kg/cu m) summed together. If CA 11 is used and either Class DS concrete is placed underwater or a self-consolidating concrete mixture is desired, the Contractor shall have the option to develop a mixture with a minimum cement and finely divided minerals of 635 lbs/cu yd (378 kg/cu m) summed together.

- c. The minimum portland cement content in the mixture shall be 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone addition exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). For a drilled shaft, foundation, footing, or substructure, the minimum portland cement may be reduced to as low as 330 lbs/cu yd (196 kg/cu m) if the concrete has adequate freeze/thaw durability. The Contractor shall provide freeze/thaw test results according to AASHTO T 161 Procedure A or B, and the relative dynamic modulus of elasticity of the mix design shall be a minimum of 80 percent. Freeze/thaw testing will not be required for concrete that will not be exposed to freezing and thawing conditions as determined by the Engineer.
- d. The maximum cement replacement with fly ash shall be 40.0 percent. The maximum cement replacement with ground granulated blast-furnace slag shall be 65.0 percent. When cement replacement with ground granulated blast-furnace slag exceeds 35.0 percent, only Grade 100 shall be used.
- e. The mixture may contain a maximum of two finely divided minerals. The finely divided mineral in portland-pozzolan cement or portland blast-furnace slag cement shall count toward the total number of finely divided minerals allowed. The finely divided minerals shall constitute a maximum of 65.0 percent of the total cement plus finely divided minerals. The fly ash portion shall not exceed 40.0 percent. The ground granulated blast-furnace slag portion shall not exceed 65.0 percent. The microsilica or high-reactivity metakaolin portion used together or separately shall not exceed 5.0 percent.
- f. The time to obtain the specified strength may be increased to a maximum 56 days, provided the curing period specified in Article 1020.13 is increased to a minimum of 14 days.

The minimum grout strength for filling embedded pipe shall be as specified for the concrete, and testing shall be according to AASHTO T 106.

- (2) The selected mathematical method for evaluating heat of hydration thermal effects, which shall include the calculated adiabatic temperature rise, calculated maximum concrete temperature, and calculated maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface. The time when the maximum concrete temperature and maximum temperature differential will occur is required.

Acceptable mathematical methods include ACI 207.2R "Report on Thermal and Volume Change Effects on Cracking of Mass Concrete" as well as other proprietary methods. The Contractor shall perform heat of hydration testing on the cement and finely divided minerals to be used in the concrete mixture. The test shall be according to ASTM C 186 or other applicable test methods, and the result for heat shall be used in the equation to calculate adiabatic temperature rise. Other required test parameters for the mathematical model may be assumed if appropriate.

The Contractor has the option to propose a higher maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface, but the proposed value shall not exceed 50 °F (28 °C). In addition, based on strength gain of the concrete, multiple maximum temperature differentials at different times may be proposed. The proposed value shall be justified through a mathematical method.

- (3) Proposed maximum concrete temperature or temperature range prior to placement.

Article 1020.14 shall apply except a minimum 40 °F (4 °C) concrete temperature will be permitted.

- (4) Pre-cooling, post-cooling, and surface insulation methods that will be used to ensure the concrete will comply with the specified maximum temperature and specified or proposed temperature differential. For reinforcement that extends beyond the limits of the pour, the Contractor shall indicate if the reinforcement is required to be covered with insulation.

Refer to ACI 207.4R “Cooling and Insulating Systems for Mass Concrete” for acceptable methods that will be permitted. If embedded pipe is used for post-cooling, the material shall be polyvinyl chloride or polyethylene. The embedded pipe system shall be properly supported, and the Contractor shall subsequently inspect glued joints to ensure they are able to withstand free falling concrete. The embedded pipe system shall be leak tested after inspection of the glued joints, and prior to the concrete placement. The leak test shall be performed at maximum service pressure or higher for a minimum of 15 minutes. All leaks shall be repaired. The embedded pipe cooling water may be from natural sources such as streams and rivers, but shall be filtered to prevent system stoppages. When the embedded pipe is no longer needed, the surface connections to the pipe shall be removed to a depth of 4 in. (100 mm) below the surface of the concrete. The remaining pipe shall be completely filled with grout. The 4 in. (100 mm) deep concrete hole shall be filled with nonshrink grout. Form and insulation removal shall be done in a manner to prevent cracking and ensure the maximum temperature differential is maintained. Insulation shall be in good condition as determined by the Engineer and properly attached.

- (5) Dimensions of each concrete pour, location of construction joints, placement operations, pour pattern, lift heights, and time delays between lifts.

Refer to ACI 207.1R “Guide to Mass Concrete” for acceptable placement operations that will be permitted.

- (6) Type of temperature monitoring system, the number of temperature sensors, and location of sensors.

A minimum of two independent temperature monitoring systems and corresponding sensors shall be used.

The temperature monitoring system shall have a minimum temperature range of 32 °F (0 °C) to 212 °F (100 °C), an accuracy of ± 2 °F (± 1 °C), and be able to automatically record temperatures without external power. Temperature monitoring shall begin once the sensor is encased in concrete, and with a maximum interval of one hour. Temperature monitoring may be discontinued after the maximum concrete temperature has been reached, post-cooling is no longer required, and the maximum temperature differential between the internal concrete core and the ambient air temperature does not exceed 35 °F (19 °C). The Contractor has the option to select a higher maximum temperature differential, but the proposed value shall not exceed 50 °F (28 °C). The proposed value shall be justified through a mathematical method.

At a minimum, a temperature sensor shall be located at the theoretical hottest portion of the concrete, normally the geometric center, and at the exterior face that will provide the maximum temperature differential. At the exterior face, the sensor shall be located 2 to 3 in. (50 to 75 mm) from the surface of the concrete. Sensors shall also be located a minimum of 1 in. (25 mm) away from reinforcement, and equidistant between cooling pipes if either applies. A sensor will also be required to measure ambient air temperature. The entrant/exit cooling water temperature for embedded pipe shall also be monitored.

Temperature monitoring results shall be provided to the Engineer a minimum of once each day and whenever requested by the Engineer. The report may be electronic or hard copy. The report shall indicate the location of each sensor, the temperature recorded, and the time recorded. The report shall be for all sensors and shall include ambient air temperature and entrant/exit cooling water temperatures. The temperature data in the report may be provided in tabular or graphical format, and the report shall indicate any corrective actions during the monitoring period. At the completion of the monitoring period, the Contractor shall provide the Engineer a final report that includes all temperature data and corrective actions.

- (7) Indicate contingency operations to be used if the maximum temperature or temperature differential of the concrete is reached after placement.
- (c) Temperature Restriction Violations. If the maximum temperature of the concrete after placement exceeds 150 °F (66 °C), but is equal to or less than 158 °F (70 °C), the concrete will be accepted if no cracking or other unacceptable defects are identified. If cracking or unacceptable defects are identified, Article 105.03 shall apply. If the concrete temperature exceeds 158 °F (70 °C), Article 105.03 shall apply.

If a temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface exceeds the specified or proposed maximum value allowed, the concrete will be accepted if no cracking or other unacceptable defects are identified. If unacceptable defects are identified, Article 105.03 shall apply.

When the maximum 150 °F (66 °C) concrete temperature or the maximum allowed temperature differential is violated, the Contractor shall implement corrective action prior to the next pour. In addition, the Engineer reserves the right to request a new thermal control plan for acceptance before the Contractor is allowed to pour again.

- (d) Inspection and Repair of Cracks. The Engineer will inspect the concrete for cracks after the temperature monitoring is discontinued, and the Contractor shall provide access for the Engineer to do the inspection. A crack may require repair by the Contractor as determined by the Engineer. The Contractor shall be responsible for the repair of all cracks. Protective coat or a concrete sealer shall be applied to a crack less than 0.007 in. (0.18 mm) in width. A crack that is 0.007 in. (0.18 mm) or greater shall be pressure injected with epoxy according to Section 590.

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: November 1, 2013

Add the following to Section 1020 of the Standard Specifications:

"1020.16 Quality Control/Quality Assurance of Concrete Mixtures. This Article specifies the quality control responsibilities of the Contractor for concrete mixtures (except Class PC and PS concrete), cement aggregate mixture II, and controlled low-strength material incorporated in the project, and defines the quality assurance and acceptance responsibilities of the Engineer.

A list of quality control/quality assurance (QC/QA) documents is provided in Article 1020.16(g), Schedule D.

A Level I Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department's training for concrete testing.

A Level II Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department's training for concrete proportioning.

A Level III Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department's training for concrete mix design.

A Concrete Tester shall be defined as an individual who has successfully completed the Department's training to assist with concrete testing and is monitored on a daily basis.

Aggregate Technician shall be defined as an individual who has successfully completed the Department's training for gradation testing involving aggregate production and mixtures.

Mixture Aggregate Technician shall be defined as an individual who has successfully completed the Department's training for gradation testing involving mixtures.

Gradation Technician shall be defined as an individual who has successfully completed the Department's training to assist with gradation testing and is monitored on a daily basis.

- (a) Equipment/Laboratory. The Contractor shall provide a laboratory and test equipment to perform their quality control testing.

The laboratory shall be of sufficient size and be furnished with the necessary equipment, supplies, and current published test methods for adequately and safely performing all required tests. The laboratory will be approved by the Engineer according to the current Bureau of Materials and Physical Research Policy Memorandum "Minimum Private Laboratory Requirements for Construction Materials Testing or Mix Design". Production of a mixture shall not begin until the Engineer provides written approval of the laboratory. The Contractor shall refer to the Department's "Required Sampling and Testing Equipment for Concrete" for equipment requirements.

Test equipment shall be maintained and calibrated as required by the appropriate test method, and when required by the Engineer. This information shall be documented on the Department's "Calibration of Concrete Testing Equipment" form.

Test equipment used to determine compressive or flexural strength shall be calibrated each 12 month period by an independent agency, using calibration equipment traceable to the National Institute of Standards and Technology (NIST). The Contractor shall have the calibration documentation available at the test equipment location.

The Engineer will have unrestricted access to the plant and laboratory at any time to inspect measuring and testing equipment, and will notify the Contractor of any deficiencies. Defective equipment shall be immediately repaired or replaced by the Contractor.

- (b) Quality Control Plan. The Contractor shall submit, in writing, a proposed Quality Control (QC) Plan to the Engineer. The QC Plan shall be submitted a minimum of 45 calendar days prior to the production of a mixture. The QC Plan shall address the quality control of the concrete, cement aggregate mixture II, and controlled low-strength material incorporated in the project. The Contractor shall refer to the Department's "Model Quality Control Plan for Concrete Production" to prepare a QC Plan. The Engineer will respond in writing to the Contractor's proposed QC Plan within 15 calendar days of receipt.

Production of a mixture shall not begin until the Engineer provides written approval of the QC Plan. The approved QC Plan shall become a part of the contract between the Department and the Contractor, but shall not be construed as acceptance of any mixture produced.

The QC Plan may be amended during the progress of the work, by either party, subject to mutual agreement. The Engineer will respond in writing to a Contractor's proposed QC Plan amendment within 15 calendar days of receipt. The response will indicate the approval or denial of the Contractor's proposed QC Plan amendment.

- (c) Quality Control by Contractor. The Contractor shall perform quality control inspection, sampling, testing, and documentation to meet contract requirements. Quality control includes the recognition of obvious defects and their immediate correction. Quality control also includes appropriate action when passing test results are near specification limits, or to resolve test result differences with the Engineer. Quality control may require increased testing, communication of test results to the plant or the jobsite, modification of operations, suspension of mixture production, rejection of material, or other actions as appropriate. The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported no later than the start of the next work day.

When a mixture does not comply with specifications, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03.

- (1) Personnel Requirements. The Contractor shall provide a Quality Control (QC) Manager who will have overall responsibility and authority for quality control. The jobsite and plant personnel shall be able to contact the QC Manager by cellular phone, two-way radio or other methods approved by the Engineer.

The QC Manager shall visit the jobsite a minimum of once a week. A visit shall be performed the day of a bridge deck pour, the day a non-routine mixture is placed as determined by the Engineer, or the day a plant is anticipated to produce more than 1000 cu yd (765 cu m). Any of the three required visits may be used to meet the once per week minimum requirement.

The Contractor shall provide personnel to perform the required inspections, sampling, testing and documentation in a timely manner. The Contractor shall refer to the Department's "Qualifications and Duties of Concrete Quality Control Personnel" document.

A Level I PCC Technician shall be provided at the jobsite during mixture production and placement, and may supervise concurrent pours on the project. For concurrent pours, a minimum of one Concrete Tester shall be required at each pour location. If the Level I PCC Technician is at one of the pour locations, a Concrete Tester is still required at the same location. Each Concrete Tester shall be able to contact the Level I PCC Technician by cellular phone, two-way radio or other methods approved by the Engineer. A single Level I PCC Technician shall not supervise concurrent pours for multiple contracts.

A Level II PCC Technician shall be provided at the plant, or shall be available, during mixture production and placement. A Level II PCC Technician may supervise a maximum of three plants. Whenever the Level II PCC Technician is not at the plant during mixture production and placement, a Concrete Tester or Level I PCC Technician shall be present at the plant to perform any necessary concrete tests. The Concrete Tester, Level I PCC Technician, or other individual shall also be trained to perform any necessary aggregate moisture tests, if the Level II PCC Technician is not at the plant during mixture production and placement. The Concrete Tester, Level I PCC Technician, plant personnel, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

For a mixture which is produced and placed with a mobile portland cement concrete plant as defined in Article 1103.04, a Level II PCC Technician shall be provided. The Level II PCC Technician shall be present at all times during mixture production and placement. However, the Level II PCC Technician may request to be available if operations are satisfactory. Approval shall be obtained from the Engineer, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

A Concrete Tester, Mixture Aggregate Technician, and Aggregate Technician may provide assistance with sampling and testing. A Gradation Technician may provide assistance with testing. A Concrete Tester shall be supervised by a Level I or Level II PCC Technician. A Gradation Technician shall be supervised by a Level II PCC Technician, Mixture Aggregate Technician, or Aggregate Technician.

- (2) Required Plant Tests. Sampling and testing shall be performed at the plant, or at a location approved by the Engineer, to control the production of a mixture. The required minimum Contractor plant sampling and testing is indicated in Article 1020.16(g) Schedule A.
- (3) Required Field Tests. Sampling and testing shall be performed at the jobsite to control the production of a mixture, and to comply with specifications for placement. For standard curing, after initial curing, and for strength testing; the location shall be approved by the Engineer. The required minimum Contractor jobsite sampling and testing is indicated in Article 1020.16(g), Schedule B.
- (d) Quality Assurance by Engineer. The Engineer will perform quality assurance tests on independent samples and split samples. An independent sample is a field sample obtained and tested by only one party. A split sample is one of two equal portions of a field sample, where two parties each receive one portion for testing. The Engineer may request the Contractor to obtain a split sample. Aggregate split samples and any failing strength specimen shall be retained until permission is given by the Engineer for disposal. The results of all quality assurance tests by the Engineer will be made available to the Contractor. However, Contractor split sample test results shall be provided to the Engineer before Department test results are revealed. The Engineer's quality assurance independent sample and split sample testing is indicated in Article 1020.16(g), Schedule C.

- (1) Strength Testing. For strength testing, Article 1020.09 shall apply, except the Contractor and Engineer strength specimens may be placed in the same field curing box for initial curing and may be cured in the same water storage tank for final curing.
- (2) Comparing Test Results. Differences between the Engineer's and the Contractor's split sample test results will be considered reasonable if within the following limits:

Test Parameter	Acceptable Limits of Precision
Slump	0.75 in. (20 mm)
Air Content	0.9%
Compressive Strength	900 psi (6200 kPa)
Flexural Strength	90 psi (620 kPa)
Slump Flow (Self-Consolidating Concrete (SCC))	1.5 in. (40 mm)
Visual Stability Index (SCC)	Not Applicable
J-Ring (SCC)	1.5 in. (40 mm)
L-Box (SCC)	10 %
Hardened Visual Stability Index (SCC)	Not Applicable
Dynamic Segregation Index (SCC)	1.0 %
Flow (Controlled Low-Strength Material (CLSM))	1.5 in. (40 mm)
Strength (Controlled Low-Strength Material (CLSM))	40 psi (275 kPa)
Aggregate Gradation	See "Guideline for Sample Comparison" in Appendix "A" of the Manual of Test Procedures for Materials.

When acceptable limits of precision have been met, but only one party is within specification limits, the failing test shall be resolved before the material may be considered for acceptance.

- (3) Test Results and Specification Limits.
- a. Split Sample Testing. If either the Engineer's or the Contractor's split sample test result is not within specification limits, and the other party is within specification limits; immediate retests on a split sample shall be performed for slump, air content, slump flow, visual stability index, J-Ring, L-Box, dynamic segregation index, flow (CLSM), or aggregate gradation. A passing retest result by each party will require no further action. If either the Engineer's or Contractor's slump, air content, slump flow, visual stability index, J-Ring, L-Box, dynamic segregation index, flow (CLSM), or aggregate gradation split sample retest result is a failure; or if either the Engineer's or Contractor's strength or hardened visual stability index test result is a failure, and the other party is within specification limits; the following actions shall be initiated to investigate the test failure:
1. The Engineer and the Contractor shall investigate the sampling method, test procedure, equipment condition, equipment calibration, and other factors.

2. The Engineer or the Contractor shall replace test equipment, as determined by the Engineer.
3. The Engineer and the Contractor shall perform additional testing on split samples, as determined by the Engineer.

For aggregate gradation, jobsite slump, jobsite air content, jobsite slump flow, jobsite visual stability index, jobsite J-Ring, jobsite L-Box, jobsite dynamic segregation index, and jobsite flow (CLSM); if the failing split sample test result is not resolved according to 1., 2., or 3., and the mixture has not been placed, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work according to Article 105.03. If the mixture has already been placed, or if a failing strength or hardened visual stability index test result is not resolved according to 1., 2., or 3., the material will be considered unacceptable.

If a continued trend of difference exists between the Engineer's and the Contractor's split sample test results, or if split sample test results exceed the acceptable limits of precision, the Engineer and the Contractor shall investigate according to items 1., 2., and 3.

- b. Independent Sample Testing. For aggregate gradation, jobsite slump, jobsite air content jobsite slump flow, jobsite visual stability index, jobsite J-Ring, jobsite L-Box, jobsite dynamic segregation index, jobsite flow (CLSM); if the result of a quality assurance test on a sample independently obtained by the Engineer is not within specification limits, and the mixture has not been placed, the Contractor shall reject the material, unless the Engineer accepts the material for incorporation in the work according to Article 105.03. If the mixture has already been placed or the Engineer obtains a failing strength or hardened visual stability index test result, the material will be considered unacceptable.
- (e) Acceptance by the Engineer. Final acceptance will be based on the Standard Specifications and the following:
- (1) The Contractor's compliance with all contract documents for quality control.
 - (2) Validation of Contractor quality control test results by comparison with the Engineer's quality assurance test results using split samples. Any quality control or quality assurance test determined to be flawed may be declared invalid only when reviewed and approved by the Engineer. The Engineer will declare a test result invalid only if it is proven that improper sampling or testing occurred. The test result is to be recorded and the reason for declaring the test invalid will be provided by the Engineer.
 - (3) Comparison of the Engineer's quality assurance test results with specification limits using samples independently obtained by the Engineer.

The Engineer may suspend mixture production, reject materials, or take other appropriate action if the Contractor does not control the quality of concrete, cement aggregate mixture II, or controlled low-strength material for acceptance. The decision will be determined according to (1), (2), or (3).

(f) Documentation.

- (1) Records. The Contractor shall be responsible for documenting all observations, inspections, adjustments to the mix design, test results, retest results, and corrective actions in a bound hardback field book, bound hardback diary, or appropriate Department form, which shall become the property of the Department. The documentation shall include a method to compare the Engineer's test results with the Contractor's results. The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the consultants, the subcontractors, or the producer of the mixture. The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

The Department's form MI 504M, form BMPR MI654, and form BMPR MI655 shall be completed by the Contractor, and shall be submitted to the Engineer weekly or as required by the Engineer. A correctly completed form MI 504M, form BMPR MI654, and form BMPR MI655 are required to authorize payment by the Engineer, for applicable pay items.

- (2) Delivery Truck Ticket. The following information shall be recorded on each delivery ticket or in a bound hardback field book: initial revolution counter reading (final reading optional) at the jobsite, if the mixture is truck-mixed; time discharged at the jobsite; total amount of each admixture added at the jobsite; and total amount of water added at the jobsite.

- (g) Basis of Payment and Schedules. Quality Control/Quality Assurance of portland cement concrete mixtures will not be paid for separately, but shall be considered as included in the cost of the various concrete contract items.

SCHEDULE A

CONTRACTOR PLANT SAMPLING AND TESTING			
Item	Test	Frequency	IL Modified AASHTO or Department Test Method ^{1/}
Aggregates (Arriving at Plant)	Gradation ^{2/}	As needed to check source for each gradation number	2, 11, 27, and 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Gradation ^{2/}	2,500 cu yd (1,900 cu m) for each gradation number ^{3/}	2, 11, 27, and 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Moisture ^{4/} : Fine Aggregate	Once per week for moisture sensor, otherwise daily for each gradation number	Flask, Dunagan, Pycnometer Jar, or 255
	Moisture ^{4/} : Coarse Aggregate	As needed to control production for each gradation number	Dunagan, Pycnometer Jar, or 255
Mixture ^{5/}	Slump Air Content Unit Weight / Yield Slump Flow (SCC) Visual Stability Index (SCC) J-Ring (SCC) ^{6/} L-Box (SCC) ^{6/} Temperature	As needed to control production	T 141 and T 119 T 141 and T 152 or T 196 T 141 and T 121 SCC-1 and SCC-2 SCC-1 and SCC-2 SCC-1 and SCC-3 SCC-1 and SCC-4 T 141 and T 309
Mixture (CLSM) ^{7/}	Flow Air Content Temperature	As needed to control production	Illinois Test Procedure 307

1/ Refer to the Department's "Manual of Test Procedures for Materials".

2/ All gradation tests shall be washed. Testing shall be completed no later than 24 hours after the aggregate has been sampled.

3/ One per week (Sunday through Saturday) minimum unless the stockpile has not received additional aggregate material since the previous test.

One per day minimum for a bridge deck pour unless the stockpile has not received additional aggregate material since the previous test. The sample shall be taken and testing completed prior to the pour. The bridge deck aggregate sample may be taken the day before the pour or as approved by the Engineer.

4/ If the moisture test and moisture sensor disagree by more than 0.5 percent, retest. If the difference remains, adjust the moisture sensor to an average of two or more moisture tests. The Department's "Water/Cement Ratio Worksheet" form shall be completed when applicable.

5/ The Contractor may also perform strength testing according to Illinois Modified AASHTO T 141, T 23, and T 22 or T 177; or water content testing according to Illinois Modified AASHTO T 318.

The Contractor may also perform other available self-consolidating concrete (SCC) tests at the plant to control mixture production.

- 6/ The Contractor shall select the J-Ring or L-Box test for plant sampling and testing.
- 7/ The Contractor may also perform strength testing according to Illinois Test Procedure 307.

SCHEDULE B

CONTRACTOR JOBSITE SAMPLING & TESTING ^{1/}			
Item	Measured Property	Random Sample Testing Frequency per Mix Design and per Plant ^{2/}	IL Modified AASHTO Test Method
Pavement, Shoulder, Base Course, Base Course Widening, Driveway Pavement, Railroad Crossing, Cement Aggregate Mixture II	Slump ^{3/ 4/}	1 per 500 cu yd (400 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 100 cu yd (80 cu m) or minimum 1/day	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 1250 cu yd (1000 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23
Bridge Slab ^{9/} , Bridge Deck ^{9/} , Bridge Deck Overlay ^{9/} , Superstructure ^{9/} , Substructure, Culvert, Miscellaneous Drainage Structures, Retaining Wall, Building Wall, Drilled Shaft Pile & Encasement Footing, Foundation, Pavement Patching, Structural Repairs	Slump ^{3/ 4/}	1 per 50 cu yd (40 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 50 cu yd (40 cu m) or minimum 1/day	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 250 cu yd (200 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23
Seal Coat	Slump ^{3/}	1 per 250 cu yd (200 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 250 cu yd (200 cu m) or minimum 1/day when air is entrained	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 250 cu yd (200 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23

CONTRACTOR JOBSITE SAMPLING & TESTING ^{1/}			
Curb, Gutter, Median, Barrier, Sidewalk, Slope Wall, Paved Ditch, Fabric Formed Concrete Revetment Mat ^{10/} , Miscellaneous Items, Incidental Items	Slump ^{3/ 4/}	1 per 100 cu yd (80 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 50 cu yd (40 cu m) or minimum 1/day	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 400 cu yd (300 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23
The Item will use a Self-Consolidating Concrete Mixture	Slump Flow ^{3/} VSI ^{3/} J-Ring ^{3/ 11/} L-Box ^{3/ 11/}	Perform at same frequency that is specified for the Item's slump	SCC-1 & SCC-2 SCC-1 & SCC-2 SCC-1 & SCC-3 SCC-1 & SCC-4
The Item will use a Self-Consolidating Concrete Mixture	HVSI ^{12/}	Minimum 1/day at start of production for that day	SCC-1 and SCC-6
The Item will use a Self-Consolidating Concrete Mixture	Dynamic Segregation Index (DSI)	Minimum 1/week at start of production for that week	SCC-1 and SCC-8 (Option C)
The Item will use a Self-Consolidating Concrete Mixture	Air Content ^{3/ 5/ 6/}	Perform at same frequency that is specified for the Item's air content	SCC-1 and T 152 or T 196
The Item will use a Self-Consolidating Concrete Mixture	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	Perform at same frequency that is specified for the Item's strength	SCC-1, T 22 and T 23 or SCC-1, T 177 and T 23
All	Temperature ^{3/}	As needed to control production	T 141 and T 309
Controlled Low-Strength Material (CLSM)	Flow, Air Content, Compressive Strength (28-day) ^{13/} , and Temperature	First truck load delivered and as needed to control production thereafter	Illinois Test Procedure 307

1/ Sampling and testing of small quantities of curb, gutter, median, barrier, sidewalk, slope wall, paved ditch, miscellaneous items, and incidental items may be waived by the Engineer if requested by the Contractor. However, quality control personnel are still required according to Article 1020.16(c)(1) The Contractor shall also provide recent evidence that similar material has been found to be satisfactory under normal sampling and testing procedures. The total quantity that may be waived for testing shall not exceed 100 cu yd (76 cu m) per contract.

If the Contractor's or Engineer's test result for any jobsite mixture test is not within the specification limits, all subsequent truck loads delivered shall be tested by the Contractor until the problem is corrected.

- 2/ If one mix design is being used for several construction items during a day's production, one testing frequency may be selected to include all items. The construction items shall have the same slump, air content, and water/cement ratio specifications. For self-consolidating concrete, the construction items shall have the same slump flow, visual stability index, J-Ring, L-Box, air content, and water/cement ratio specifications. The frequency selected shall equal or exceed the testing required for the construction item.

One sufficiently sized sample shall be taken to perform the required test(s). Random numbers shall be determined according to the Department's "Method for Obtaining Random Samples for Concrete". The Engineer will provide random sample locations.

- 3/ The temperature, slump, and air content tests shall be performed on the first truck load delivered, for each pour. For self consolidating concrete, the temperature, slump flow, visual stability index, J-Ring or L-Box, and air content tests shall be performed on the first truck load delivered, for each pour. Unless a random sample is required for the first truck load, testing the first truck load does not satisfy random sampling requirements.
- 4/ The slump random sample testing frequency shall be a minimum 1/day for a construction item which is slipformed.
- 5/ If a pump or conveyor is used for placement, a correction factor shall be established to allow for a loss of air content during transport. The first three truck loads delivered shall be tested, before and after transport by the pump or conveyor, to establish the correction factor. Once the correction is determined, it shall be re-checked after an additional 50 cu yd (40 cu m) is pumped, or an additional 100 cu yd (80 cu m) is conveyed. This shall continue throughout the pour. If the re-check indicates the correction factor has changed, a minimum of two truckloads is required to re-establish the correction factor. The correction factor shall also be re-established when significant changes in temperature, distance, pump or conveyor arrangement, and other factors have occurred. If the correction factor is >3.0 percent, the Contractor shall take corrective action to reduce the loss of air content during transport by the pump or conveyor. The Contractor shall record all air content test results, correction factors and corrected air contents. The corrected air content shall be reported on form BMPR MI654.
- 6/ If the Contractor's or Engineer's air content test result is within the specification limits, and 0.2 percent or closer to either limit, the next truck load delivered shall be tested by the Contractor. For example, if the specified air content range is 5.0 to 8.0 percent and the test result is 5.0, 5.1, 5.2, 7.8, 7.9 or 8.0 percent, the next truck shall be tested by the Contractor.
- 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).

- 8/ In addition to the strength test, a slump test, air content test, and temperature test shall be performed on the same sample. For self-consolidating concrete, a slump flow test, visual stability index test, J-Ring or L-Box test, air content test, and temperature test shall be performed on the same sample as the strength test. For mixtures pumped or conveyed, the Contractor shall sample according to Illinois Modified AASHTO T 141.
- 9/ The air content test will be required for each delivered truck load.
- 10/ For fabric formed concrete revetment mat, the slump test is not required and the flexural strength test is not applicable.
- 11/ The Contractor shall select the J-Ring or L-Box test for jobsite sampling and testing.
- 12/ In addition to the hardened visual stability index (HVSI) test, a slump flow test, visual stability index (VSI) test, J-Ring or L-Box test, air content test, and temperature test shall be performed on the same sample. The Contractor shall retain all hardened visual stability index cut cylinder specimens until the Engineer notifies the Contractor that the specimens may be discarded.
- 13/ The test of record for strength shall be the day indicated in Article 1019.04. In addition to the strength test, a flow test, air content test, and temperature test shall be performed on the same sample. The strength test may be waived by the Engineer if future removal of the material is not a concern.

SCHEDULE C

ENGINEER QUALITY ASSURANCE INDEPENDENT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins, Slump and Air Content	As determined by the Engineer.
Jobsite	Slump, Air Content, Slump Flow, Visual Stability Index, J-Ring, L-Box, Hardened Visual Stability Index, Dynamic Segregation Index and Strength	As determined by the Engineer.
	Flow, Air Content, Strength (28-day), and Dynamic Cone Penetration for Controlled Low-Strength Material (CLSM)	As determined by the Engineer

ENGINEER QUALITY ASSURANCE SPLIT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins ^{2/}	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 10% of total tests required of the Contractor will be performed per aggregate gradation number and per plant.
	Slump and Air Content	As determined by the Engineer.
Jobsite	Slump ^{2/} , Air Content ^{2/ 3/} , Slump Flow ^{2/} , Visual Stability Index ^{2/} , J-Ring ^{2/} and L-box ^{2/}	At the beginning of the project, the first three tests performed by the Contractor. Thereafter, a minimum of 20% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.
	Hardened Visual Stability Index ^{2/}	As determined by the Engineer.
	Dynamic Segregation Index ^{2/}	As determined by the Engineer.
	Strength ^{2/}	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 20% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.
	Flow, Air Content, and Strength (28-day) for Controlled Low-Strength Material (CLSM)	As determined by the Engineer.

1/ The Engineer will perform the testing throughout the period of quality control testing by the Contractor.

- 2/ The Engineer will witness and take immediate possession of or otherwise secure the Department's split sample obtained by the Contractor.
- 3/ Before transport by pump or conveyor, a minimum of 20 percent of total tests required of the Contractor will be performed per mix design and per plant. After transport by pump or conveyor, a minimum of 20 percent of total tests required of the Contractor will be performed per mix design and per plant.

SCHEDULE D

CONCRETE QUALITY CONTROL AND QUALITY ASSURANCE DOCUMENTS

- (a) Model Quality Control Plan for Concrete Production (*)
- (b) Qualifications and Duties of Concrete Quality Control Personnel (*)
- (c) Development of Gradation Bands on Incoming Aggregate at Mix Plants (*)
- (d) Required Sampling and Testing Equipment for Concrete (*)
- (e) Method for Obtaining Random Samples for Concrete (*)
- (f) Calibration of Concrete Testing Equipment (BMPR PCCQ01 through BMPR PCCQ09) (*)
- (g) Water/Cement Ratio Worksheet (BMPR PCCW01) (*)
- (h) Field/Lab Gradations (MI 504M) (*)
- (i) Concrete Air, Slump and Quantity (BMPR MI654) (*)
- (j) P.C. Concrete Strengths (BMPR MI655) (*)
- (k) Aggregate Technician Course or Mixture Aggregate Technician Course (*)
- (l) Portland Cement Concrete Tester Course (*)
- (m) Portland Cement Concrete Level I Technician Course - Manual of Instructions for Concrete Testing (*)
- (n) Portland Cement Concrete Level II Technician Course - Manual of Instructions for Concrete Proportioning (*)
- (o) Portland Cement Concrete Level III Technician Course - Manual of Instructions for Design of Concrete Mixtures (*)
- (p) Manual of Test Procedures for Materials

* Refer to Appendix C of the Manual of Test Procedures for Materials for more information.”

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (BDE)

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 produced by cold milling or crushing an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (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 93 percent passing the #4 (4.75 mm) sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. 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. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type as listed below (i.e. “Homogeneous Surface”).

Prior to milling, the Contractor shall request the District provide documentation on the quality of the RAP to clarify the appropriate stockpile.

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) 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 fractionated prior to testing by screening into a minimum of two size 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 shall pass the sieve size specified below for the mix into which the FRAP will be incorporated.

Mixture FRAP will be used in:	Sieve Size that 100% of FRAP Shall Pass
IL-25.0	2 in. (50 mm)
IL-19.0	1 1/2 in. (40 mm)
IL-12.5	1 in. (25 mm)
IL-9.5	3/4 in. (20 mm)
IL-4.75	1/2 in. (13 mm)

- (2) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogenous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) 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 prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag.
- (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from Class I, HMA (High or Low ESAL), or "All Other" (as defined by Article 1030.04(a)(3)) mixtures. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP/FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise specified by the Engineer, mechanically blending manufactured sand (FM 20 or FM 22) up to an equal weight of RAS with the processed RAS will be permitted to improve workability. The sand shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

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

1031.03 Testing. RAP/FRAP and RAS testing shall be according to the following.

- (a) RAP/FRAP Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during or after stockpiling.

(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) 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.

Each sample shall be split to obtain two equal 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 or RAS blended with manufactured sand shall be sampled and tested during stockpiling according to Illinois Department of Transportation Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Source".

Samples shall be collected during stockpiling at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 250 tons (225 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS or RAS blended with manufactured sand shall be stockpiled 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.

Before testing, each sample shall be split to obtain two test samples. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall perform a washed extraction and test for unacceptable materials on 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.

If the sampling and testing was performed at the shingle processing facility in accordance with the QC Plan, the Contractor shall obtain and make available all of the test results from start of the initial stockpile.

1031.04 Evaluation of Tests. Evaluation of tests results shall be according to the following.

- (a) Evaluation of RAP/FRAP Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation and, when applicable G_{mm} . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	FRAP/Homogeneous /Conglomerate	Conglomerate "D" Quality
1 in. (25 mm)		$\pm 5 \%$
1/2 in. (12.5 mm)	$\pm 8 \%$	$\pm 15 \%$
No. 4 (4.75 mm)	$\pm 6 \%$	$\pm 13 \%$
No. 8 (2.36 mm)	$\pm 5 \%$	
No. 16 (1.18 mm)		$\pm 15 \%$
No. 30 (600 μm)	$\pm 5 \%$	
No. 200 (75 μm)	$\pm 2.0 \%$	$\pm 4.0 \%$
Asphalt Binder	$\pm 0.4 \%$ ^{1/}	$\pm 0.5 \%$
G_{mm}	± 0.03	

1/ The tolerance for FRAP shall be $\pm 0.3 \%$.

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, the RAP/FRAP shall not be used in HMA unless the RAP/FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the Illinois Test Procedure, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

- (b) Evaluation of RAS and RAS Blended with Manufactured Sand 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. Individual test results, when compared to the averages, will be accepted if within the tolerances listed below.

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

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, or if the percent unacceptable material exceeds 0.5 percent by weight of material retained on the # 4 (4.75 mm) sieve, the RAS or RAS blend shall not be used in Department projects. All test data and acceptance ranges shall be sent to the District for evaluation.

1031.05 Quality Designation of Aggregate in RAP/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. Coarse and fine FRAP 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 BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

1031.06 Use of RAP/FRAP and/or RAS in HMA. The use of RAP/FRAP and/or RAS shall be a Contractor's option when constructing HMA in all contracts.

(a) RAP/FRAP. The use of RAP/FRAP in HMA shall be as follows.

- (1) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. Homogeneous RAP stockpiles containing steel slag will be approved for use in all HMA (High ESAL and Low ESAL) Surface and Binder Mixture applications.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. RAP/FRAP from Conglomerate stockpiles shall be considered equivalent to limestone for frictional considerations. Known frictional contributions from plus #4 (4.75 mm) homogeneous RAP and FRAP stockpiles will be accounted for in meeting frictional requirements in the specified mixture.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, conglomerate, or conglomerate DQ.
- (6) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in Article 1031.06(c)(1) below for a given N Design.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

(c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0% by weight of the total mix.

(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the Max RAP/RAS ABR table listed below for the given Ndesign.

RAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage

HMA Mixtures ^{1/, 2/}	RAP/RAS Maximum ABR %		
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10
105	10	10	10

1/ For HMA “All Other” (shoulder and stabilized subbase) N-30, the RAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275 °F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when RAP/RAS ABR exceeds 25 percent (i.e. 26 percent RAP/RAS ABR would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).

(2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the FRAP/RAS table listed below for the given N design.

FRAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage

HMA Mixtures ^{1/, 2/}	FRAP/RAS Maximum ABR %		
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified ^{3/, 4/}
30	40	40	10
50	40	30	10
70	30	20	10
90	30	20	10
105	30	15	10

- 1/ For HMA "All Other" (shoulder and stabilized subbase) N30, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When FRAP/RAS ABR exceeds 20 percent for all mixes the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275 °F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP/RAS ABR exceeds 25 percent (i.e. 26 percent ABR would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).
- 3/ For SMA the FRAP/RAS ABR shall not exceed 20 percent.
- 4/ For IL-4.75 mix the FRAP/RAS ABR shall not exceed 30 percent.

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) RAP/FRAP and/or RAS. RAP/FRAP and/or RAS mix designs shall be submitted for verification. If additional RAP/FRAP stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP/FRAP stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP stockpiles may be used in the original mix 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 RAP/FRAP and/or RAS shall be as follows.

- (a) RAP/FRAP. The coarse aggregate in all RAP/FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAP feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

If the RAP/FRAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP and either switch to the virgin aggregate design or submit a new RAP/FRAP design.

- (b) 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 ± 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.

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

- (c) RAP/FRAP and/or RAS. HMA plants utilizing RAP/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 RAP/FRAP/RAS 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 RAP/FRAP material as a percent of the total mix to the nearest 0.1 percent.
- h. Aggregate and RAP/FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP are printed in wet condition.)

(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. RAP/FRAP/RAS weight to the nearest pound (kilogram).
- g. Virgin asphalt binder weight to the nearest pound (kilogram).
- h. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.

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

1031.09 RAP in Aggregate Surface Course and Aggregate Shoulders. The use of RAP in aggregate surface course (temporary access entrances only) and aggregate wedge shoulders Type B 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. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted."

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. (± 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 REGULATED SUBSTANCES (BDE)

Effective: January 1, 2012

Revised: November 2, 2012

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.”

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)."

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: April 2, 2005

Revised: April 1, 2011

To account for the preparatory work and operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting according to Article 108.01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be equal to 3 percent of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor's work.

The mobilization payment to the subcontractor is an advance payment of the reported amount of the subcontract and is not a payment in addition to the amount of the subcontract; therefore, the amount of the advance payment will be deducted from future progress payments.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

SYNTHETIC FIBERS IN CONCRETE GUTTER, CURB, MEDIAN, AND PAVED DITCH (BDE)

Effective: November 1, 2012

Add the following to Article 606.02 of the Standard Specifications.

- “(g) Grout 1024.01
- “(h) Synthetic Fibers (Note 1)

Note 1. Synthetic fibers may be used in the concrete mixture for slipform applications. Synthetic fibers shall be Type III according to ASTM C 1116. The synthetic fiber shall have a minimum length of 1/2 in. (13 mm) and a maximum length of 0.75 in. (19 mm).

The synthetic fibers shall be added to the concrete and mixed per the manufacturer’s recommendation. The maximum dosage rate in the concrete mixture shall be 1.5 lb/cu yd (0.9 kg/cu m).

The Department will maintain an “Approved List of Synthetic Fibers”.

Revise the second paragraph of Article 606.11 of the Standard Specifications to read:

“Forms shall be removed within 24 hours after the concrete has been placed, and minor defects shall be filled with grout consisting of one part cement and two parts sand mixed with water.”

TEMPORARY EROSION AND SEDIMENT CONTROL (BDE)

Effective: January 1, 2012

Revise the first paragraph of Article 280.04(f) of the Standard Specifications to read:

- “(f) Temporary Erosion Control Seeding. This system consists of seeding all erodible/bare areas to minimize the amount of exposed surface area. Seed bed preparation will not be required if the surface of the soil is uniformly smooth and in a loose condition. Light disking shall be done if the soil is hard packed or caked. Erosion rills greater than 1 in. (25 mm) in depth shall be filled and area blended with the surrounding soil. Fertilizer nutrients will not be required.”

Delete the last sentence of Article 280.08(e) of the Standard Specifications.

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 DEFICIENCY DEDUCTION (BDE)

Effective: August 1, 2011

Revise the third sentence of the third paragraph of Article 105.03(b) of the Standard Specifications to read:

“The daily monetary deduction will be \$2,500.”

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 **5 Trainees**. 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

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's community college pre-apprenticeship programs outlined by this Special Provision.

It is the policy of IDOT to fund IDOT pre-apprenticeship training programs based at Illinois Community Colleges throughout Illinois, by Intergovernmental Agreement with the Illinois Community College Board, 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 state funded construction contracts shall include "Training Program Graduate (TPG) Special Provisions." To benefit from the incentives to encourage the participation in the additional on-the-job training under this Training Program Graduate (TPG) Special Provision, the Contractor shall make every reasonable effort to employ certified graduates of the IDOT funded Pre-apprenticeship Training Program 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 \$10.00 per hour for training given a certified graduate trainee 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 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 \$10.00 per hour for 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 **5 Trainees**. 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 by Intergovernmental Agreement with the Illinois Community College Board 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 Illinois Community College Program 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 TPG Special Provision \$10.00 an hour incentive.

The Contractor or subcontractor shall provide each TPG with a certification 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.

UTILITY COORDINATION AND CONFLICTS (BDE)

Effective: April 1, 2011

Revised: January 1, 2012

Revise Article 105.07 of the Standard Specifications to read:

“105.07 Cooperation with Utilities. The Department reserves the right at any time to allow work by utilities on or near the work covered by the contract. The Contractor shall conduct his/her work so as not to interfere with or hinder the progress or completion of the work being performed by utilities. The Contractor shall also arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of utility work in the area.

The Contractor shall cooperate with the owners of utilities in their removal and rearrangement operations so work may progress in a reasonable manner, duplication or rearrangement of work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.

The Contractor shall coordinate with any planned utility adjustment or new installation and the Contractor shall take all precautions to prevent disturbance or damage to utility facilities. Any failure on the part of the utility owner, or their representative, to proceed with any planned utility adjustment or new installation shall be reported promptly by the Contractor to the Engineer.”

Revise the first sentence of the last paragraph of Article 107.19 of the Standard Specifications to read:

“When the Contractor encounters unexpected regulated substances due to the presence of utilities in unanticipated locations, the provisions of Article 107.40 shall apply; otherwise, if the Engineer does not direct a resumption of operations, the provisions of Article 108.07 shall apply.”

Revise Article 107.31 of the Standard Specification to read:

“107.31 Reserved.”

Add the following four Articles to Section 107 of the Standard Specifications:

“107.37 Locations of Utilities within the Project Limits. All known utilities existing within the limits of construction are either indicated on the plans or visible above ground. For the purpose of this Article, the limits of proposed construction are defined as follows:

(a) Limits of Proposed Construction for Utilities Paralleling the Roadway.

- (1) The horizontal limits shall be a vertical plane, outside of, parallel to, and 2 ft (600 mm) distant at right angles from the plan or revised slope limits.

- In cases where the limits of excavation for structures are not shown on the plans, the horizontal limits shall be a vertical plane 4 ft (1.2 m) outside the edges of structure footings or the structure where no footings are required.
- (2) The upper vertical limits shall be the regulations governing the roadbed clearance for the specific utility involved.
 - (3) The lower vertical limits shall be either the top of the utility at the depth below the proposed grade as prescribed by the governing agency or the limits of excavation, whichever is less.
- (b) Limits of Proposed Construction for Utilities Crossing the Roadway in a Generally Transverse Direction.
- (1) Utilities crossing excavations for structures that are normally made by trenching such as sewers, underdrains, etc. and all minor structures such as manholes, inlets, foundations for signs, foundations for traffic signals, etc., the limits shall be the space to be occupied by the proposed permanent construction, unless otherwise required by the regulations governing the specific utility involved.
 - (2) For utilities crossing the proposed site of major structures such as bridges, sign trusses, etc., the limits shall be as defined above for utilities extending in the same general direction as the roadway.

It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utilities in their present and/or adjusted positions as indicated in the contract. It is further understood the actual location of the utilities may be located anywhere within the tolerances provided in 220 ILCS 50/2.8 or Administrative Code Title 92 Part 530.40(c), and the proximity of some utilities to construction may require extraordinary measures by the Contractor to protect those utilities.

No additional compensation will be allowed for any delays, inconveniences, or damages sustained by the Contractor due to the presence of or any claimed interference from known utility facilities or any adjustment of them, except as specifically provided in the contract.

107.38 Adjustments of Utilities within the Project Limits. The adjustment of utilities consists of the relocation, removal, replacement, rearrangements, reconstruction, improvement, disconnection, connection, shifting, new installation, or altering of an existing utility facility in any manner.

Utilities which are to be adjusted shall be adjusted by the utility owner or the owner's representative or by the Contractor as a contract item. Generally, arrangements for adjusting known utilities will be made by the Department prior to project construction; however, utilities will not necessarily be adjusted in advance of project construction and, in some cases, utilities will not be removed from the proposed construction limits as described in Article 107.37. When utility adjustments must be performed in conjunction with construction, the utility adjustment work will be indicated in the contract.

The Contractor may make arrangements for adjustment of utilities indicated in the contract, but not scheduled by the Department for adjustment, provided the Contractor furnishes the Department with a signed agreement with the utility owner covering the adjustments to be made. The cost of any such adjustments shall be the responsibility of the Contractor.

107.39 Contractor’s Responsibility for Locating and Protecting Utility Property and Services. At points where the Contractor’s operations are adjacent to properties or facilities of utility companies, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

Within the State of Illinois, a State-Wide One Call Notice System has been established for notifying utilities. Outside the city limits of the City of Chicago, the system is known as the Joint Utility Locating Information for Excavators (JULIE) System. Within the city limits of the City of Chicago the system is known as DIGGER. All utility companies and municipalities which have buried utility facilities in the State of Illinois are a part of this system.

The Contractor shall call JULIE (800-892-0123) or DIGGER (312-744-7000), a minimum of 48 hours in advance of work being done in the area, and they will notify all member utility companies involved their respective utility should be located.

For utilities which are not members of JULIE or DIGGER, the Contractor shall contact the owners directly. The plan general notes will indicate which utilities are not members of JULIE or DIGGER.

The following table indicates the color of markings required of the State-Wide One Call Notification System.

Utility Service	Color
Electric Power, Distribution and Transmission	Safety Red
Municipal Electric Systems	Safety Red
Gas Distribution and Transmission	High Visibility Safety Yellow
Oil Distribution and Transmission	High Visibility Safety Yellow
Telephone and Telegraph System	Safety Alert Orange
Community Antenna Television Systems	Safety Alert Orange
Water Systems	Safety Precaution Blue
Sewer Systems	Safety Green
Non-Potable Water and Slurry Lines	Safety Purple
Temporary Survey	Safety Pink
Proposed Excavation	Safety White (Black when snow is on the ground)

The State-Wide One Call Notification System will provide for horizontal locations of utilities. When it is determined that the vertical location of the utility is necessary to facilitate construction, the Engineer may make the request for location from the utility after receipt of notice from the Contractor. If the utility owner does not field locate their facilities to the satisfaction of the Engineer, the Engineer will authorize the Contractor in writing to proceed to locate the facilities in the most economical and reasonable manner, subject to the approval of the Engineer, and be paid according to Article 109.04.

The Contractor shall be responsible for maintaining the excavations or markers provided by the utility owners.

The Contractor shall take all necessary precautions for the protection of the utility facilities. The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Whenever any damage or destruction of a utility facility occurs as a result of work performed by the Contractor, the utility company will be immediately notified. The utility company will make arrangements to restore such facility to a condition equal to that existing before any such damage or destruction was done.

In the event of interruption of utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the said authority in the restoration of service. If water service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

107.40 Conflicts with Utilities. Except as provided hereinafter, the discovery of a utility in an unanticipated location will be evaluated according to Article 104.03. It is understood and agreed that the Contractor has considered in the bid all facilities not meeting the definition of a utility in an unanticipated location and no additional compensation will be allowed for any delays, inconveniences, or damages sustained by the Contractor due to the presence of or any claimed interference from such facilities.

When the Contractor discovers a utility in an unanticipated location, the Contractor shall not interfere with said utility, shall take proper precautions to prevent damage or interruption of the utility, and shall promptly notify the Engineer of the nature and location of said utility.

- (a) Definition. A utility in an unanticipated location is defined as an active or inactive utility, which is either:
- (1) Located underground and (a) not shown in any way in any location on the contract documents; (b) not identified in writing by the Department to the Contractor prior to the letting; or (c) not located relative to the location shown in the contract within the tolerances provided in 220 ILCS 50/2.8 or Administrative Code Title 92 Part 530.40(c); or

(2) Located above ground or underground and not relocated as provided in the contract.

Service connections shall not be considered to be utilities in unanticipated locations.

(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work applicable to the utility or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows:

(1) Minor Delay. A minor delay occurs when the Contractor's operation is completely stopped by a utility in an unanticipated location for more than two hours, but not to exceed three weeks.

(2) Major Delay. A major delay occurs when the Contractor's operation is completely stopped by a utility in an unanticipated location for more than three weeks.

(3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the contractor's rate of production decreases by more than 25 percent and lasts longer than seven days.

(c) Payment. Payment for Minor, Major and Reduced Rate of Production Delays will be made as follows.

(1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

(2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to three weeks plus the cost of move-out to either the Contractor's yard or another job, whichever is less. Rental equipment may be paid for longer than three weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Whether covered by (1), (2) or (3) above, additional traffic control required as a result of the operation(s) delayed will be paid for according to Article 109.04 for the total length of the delay.

If the delay is clearly shown to have caused work, which would have otherwise been completed, to be done after material or labor costs have increased, such increases may be paid. Payment for materials will be limited to increased cost substantiated by documentation furnished by the Contractor. Payment for increased labor rates will include those items in Article 109.04(b)(1) and (2), except the 35 percent and ten percent additives will not be permitted. On a working day contract, a delay occurring between November 30 and May 1, when work has not started, will not be considered as eligible for payment of measured labor and material costs.

Project overhead (not including interest) will be allowed when all progress on the contract has been delayed, and will be calculated as 15 percent of the delay claim.

- (d) Other Obligations of Contractor. Upon payment of a claim under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this Provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this Provision."

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 ± 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		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	N/A	Illinois-Modified AASHTO R 35

Parameter	Frequency of Tests		Test Method See Manual of Test Procedures for Materials
	High ESAL Mixture Low ESAL Mixture	All Other Mixtures	
	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)		
Air Voids Bulk Specific Gravity of Gyrotory Sample Note 5.	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 thereafter (first sample of the day)	1 per day	Illinois-Modified AASHTO T 312
Maximum Specific Gravity of Mixture	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 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 μm) 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 ± 5 °F (132 ± 3 °C) for quality control testing. The WMA compaction temperature for quality assurance testing will be 270 ± 5 °F (132 ± 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.

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within **300** working days.

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_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting, \$/ton (\$/metric ton).
%AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.
Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards: $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$. For HMA mixtures measured in square meters: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$. 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_P = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)
FPI_L = 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_P 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_L and FPI_P 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)	23 lb/ft (34 kg/m)
Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness)	32 lb/ft (48 kg/m)
Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness)	37 lb/ft (55 kg/m)
Other piling	See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	20 lb/ft (30 kg/m)
Steel Plate Beam Guardrail, Type B w/steel posts	30 lb/ft (45 kg/m)
Steel Plate Beam Guardrail, Types A and B w/wood posts	8 lb/ft (12 kg/m)
Steel Plate Beam Guardrail, Type 2	305 lb (140 kg) each
Steel Plate Beam Guardrail, Type 6	1260 lb (570 kg) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	730 lb (330 kg) each
Traffic Barrier Terminal, Type 1 Special (Flared)	410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	11 lb/ft (16 kg/m)
Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m)	14 lb/ft (21 kg/m)
Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m)	21 lb/ft (31 kg/m)
Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m)	13 lb/ft (19 kg/m)
Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m)	19 lb/ft (28 kg/m)
Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m)	31 lb/ft (46 kg/m)
Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m)	65 lb/ft (97 kg/m)
Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m)	80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	64 lb/ft (95 kg/m)
Steel Railing, Type S-1	39 lb/ft (58 kg/m)
Steel Railing, Type T-1	53 lb/ft (79 kg/m)
Steel Bridge Rail	52 lb/ft (77 kg/m)
Frames and Grates	
Frame	250 lb (115 kg)
Lids and Grates	150 lb (70 kg)

Return With Bid

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**OPTION FOR
STEEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment. After award, this form, when submitted shall become part of the contract.

Contract No.: _____

Company Name: _____

Contractor's Option:

Is your company opting to include this special provision as part of the contract plans for the following items of work?

- | | | |
|--|-----|--------------------------|
| Metal Piling | Yes | <input type="checkbox"/> |
| Structural Steel | Yes | <input type="checkbox"/> |
| Reinforcing Steel | Yes | <input type="checkbox"/> |
| Dowel Bars, Tie Bars and Mesh Reinforcement | Yes | <input type="checkbox"/> |
| Guardrail | Yes | <input type="checkbox"/> |
| Steel Traffic Signal and Light Poles, Towers and Mast Arms | Yes | <input type="checkbox"/> |
| Metal Railings (excluding wire fence) | Yes | <input type="checkbox"/> |
| Frames and Grates | Yes | <input type="checkbox"/> |

Signature: _____ **Date:** _____

STORM WATER POLLUTION PREVENTION PLAN



Storm Water Pollution Prevention Plan

Route	<u>FAP 326</u>	Marked Rte.	<u>IL Route 47</u>
Section	<u>(110)R, BR & BR-1</u>	Project No.	<u></u>
County	<u>Grundy & Kendall</u>	Contract No.	<u>66B83</u>

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.

Paul Loete, P.E.
 Print Name
Deputy Director of Highways, Region Two Engineer
 Title
Illinois Department of Transportation
 Agency

Paul Loete P.E.
 Signature
8-15-13
 Date

I. Site Description:

A. Provide a description of the project location (include latitude and longitude):

This project begins approximately 1,660' south of Granville Road and extends northerly 4.4 miles to Sherrill Road in Grundy and Kendall Counties in Illinois. The project begins at approximately N 41°23'48", W 88°25'21" and ends at approximately N 41°28'00", W 88°25',25".

B. Provide a description of the construction activity which is the subject of this plan:

The work on this project consists of reconstructing IL 47 with 10.5" PCC pavement and two 12' lanes in each direction along with a 32' raised median and 12' outside shoulders. The work includes curb and gutter, storm sewers, pipe culverts, box culverts, widened shoulders, traffic signals, sidewalks, and seeding. Work shall also include reconstructing or resurfacing side roads within the project vicinity. The project includes the removal and replacement of the bridges carrying IL 47 over Saratoga Creek and Valley Run Creek (existing S.N. 032-0088 and S.N. 032-0089).

C. Provide the estimated duration of this project:

30 months

D. The total area of the construction site is estimated to be **142.2** acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is **97.8** acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

C(existing)=0.45, C(prop)=0.65

- F. List all soils found within project boundaries. Include map unit name, slope information, and erosivity:

Milford silty clay loam (69A) – Poorly drained with moderately high permeability, 0-2 percent slopes. $K(whole)=0.20$

Swygert silty clay loam (91A) – Somewhat poorly drained with moderately low permeability, 0-2 percent slopes. $K(whole)=0.20$

Selma loam (125A) – Poorly drained with moderately high to high permeability, 0-2 percent slopes. $K(whole)=0.24$

Proctor silt loam (148A) – Well drained soil with moderately high to high permeability, 0-2 percent slopes. $K(whole)=0.28$

Proctor silt loam (148B) – Well drained with moderately high to high permeability, 2-5 percent slopes. $K(whole)=0.28$

Drummer silty clay loam (152A) – Poorly drained with moderately high to high permeability, 0-2 percent slopes. $K(whole)=0.24$

Martinton silt loam (189A) – Somewhat poorly drained with moderately high permeability, 0-2 percent slopes. $K(whole)=0.24$

Martinton silt loam (189B) – Somewhat poorly drained with moderately high permeability, 2-4 percent slopes. $K(whole)=0.24$

Bryce silty clay (235A) – Poorly drained soil with moderately low permeability, 0-2 percent slopes. $K(whole)=0.17$

Andres silt loam (293A) – Somewhat poorly drained with moderately low to moderately high permeability, 0-2 percent slopes. $K(whole)=0.24$

Peotone silty clay loam (330A) – Very poorly drained with moderately high permeability, 0-2 percent slopes. $K(whole)=0.24$

Graymont silt loam (541B) – Moderately well drained with moderately low to moderately high permeability, 2-5 percent slopes. $K(whole)=0.28$

Reddick clay loam (594A) – Poorly drained with moderately low to moderately high permeability, 0-2 percent slopes. $K(whole)=0.17$

Sawmill silty clay loam (3107A) – Poorly drained with moderately high to high permeability, 0-2 percent slopes. $K(whole)=0.28$

Sawmill silty clay loam (8107A) – Poorly drained with moderately high to high permeability, 0-2 percent slopes. $K(whole)=0.28$

Pella silty clay loam (44A) – Poorly drained with low to moderately high permeability, 0-2 percent slopes. $K(whole)=0.24$

Milford silty clay loam (69A) – Poorly drained with moderately high permeability, 0-2 percent slopes. $K(whole)=0.20$

- G. Provide an aerial extent of wetland acreage at the site:

See attached wetland maps.

- H. Provide a description of potentially erosive areas associated with this project:

The potential erosive areas for this project are roadway ditches/swales and the addition of closed drainage systems to IL 47. Storm sewers shall be constructed to convey stormwater collected in curb and gutter sections to adjacent road side ditches resulting in locations of concentrated point discharge. The project includes the removal and replacement of the structures carrying IL 47 over Saratoga Creek and Valley Run

Creek. In addition, this project includes major waterway crossings and box culverts. Particular attention should be paid to slopes in the vicinity of Saratoga Creek and Valley Run Creek and stormwater runoff discharging to the creeks.

- 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):

Stage 1 – Portions of the existing shoulder will be removed to allow for the placement of temporary pavement. Temporary culverts will be placed to maintain drainage and an existing island will be removed and replaced with temporary pavement.

Stage 2 – The permanent northbound lanes will be constructed from Sta ±6029+00 to Sta ±6104+00. The permanent ditch grades will be established between these station limits. Storm sewers and box culverts will be constructed within the Stage 2 construction limits. Granville Road will be closed and reconstructed. North of Sta ±6104+00 portions of existing shoulder will be removed and replaced with temporary pavement. Erosive factors include bare earth and steep slopes.

Stage 3 – The permanent southbound lanes, box culverts and bridge portions from Sta ±6029+00 to Sta ±6277+00 and the connector pavement from Sta ±6265+00 to Sta ±6291+00 will be constructed. The left ditches will be graded along with the median within these station ranges. Storm sewers and culverts will be constructed within the Stage 3 construction limits. Nelson Road, Airport Road, Minooka Road, and Sherrill Road will be closed and constructed in addition to portions of Prologis Parkway. Erosive factors include bare earth and steep slopes.

Stage 4 – The permanent northbound lanes, culverts, storm sewers, and bridge portions will be constructed from Sta ±6104+00 to Sta ±6265+00. Adjacent ditch grading will be performed. Minooka Road and Sherrill Road will be reconstructed within the Stage 4 construction limits. Erosive factors include bare earth and steep slopes.

- J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.
- K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Various private land owners, the Illinois Department of Transportation, the City of Morris.

- 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:

**Receiving Waters: Saratoga Creek and Valley Run Creek
 Ultimate Receiving Water: Illinois River**

- 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.

No areas outside the limits of construction shall be disturbed without prior approval. Saratoga Creek and Valley Run Creek shall be protected from pollutants throughout the duration of the project.

- 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):

N/A

- 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 type="checkbox"/> Solid Waste Debris | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Paints | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Solvents | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> Other (specify) |

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit 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

- 1. **Stabilized Practices:** Provided below is a description of interim and permanent stabilization practices, including site specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(A)(1)(a) and II(A)(3), stabilization measures shall be

initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 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 type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips | <input checked="" type="checkbox"/> Sodding |
| <input type="checkbox"/> Protection of Trees | <input type="checkbox"/> Geotextiles |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Temporary Mulching | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Other (specify) |

Describe how the stabilization practices listed above will be utilized during construction:

Disturbed areas shall be re-established with permanent erosion control measures including seeding and stabilization with erosion control blanket / mulching as soon as possible. Temporary seeding and mulching shall be utilized until permanent erosion controls can be installed.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Seeding, Class 2A & 4 shall be applied to establish permanent vegetation. Slopes and disturbed areas shall be stabilized with erosion control blanket and mulching.

2. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following structural practices will be used for this project:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier | <input type="checkbox"/> Rock Outlet Protection |
| <input checked="" type="checkbox"/> Temporary Ditch Check | <input checked="" type="checkbox"/> Riprap |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Gabions |
| <input type="checkbox"/> Sediment Trap | <input type="checkbox"/> Slope Mattress |
| <input type="checkbox"/> Temporary Pipe Slope Drain | <input type="checkbox"/> Retaining Walls |
| <input type="checkbox"/> Temporary Sediment Basin | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Temporary Stream Crossing | <input type="checkbox"/> Concrete Revetment Mats |
| <input type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders |
| <input type="checkbox"/> Turf Reinforcement Mats | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Permanent Check Dams | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Permanent Sediment Basin | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Aggregate Ditch | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Other (specify) |

Describe how the structural practices listed above will be utilized during construction:

Areas that are protected with perimeter erosion control barrier shall remain undisturbed throughout the duration of the project. The contractor shall install perimeter erosion barrier prior to construction activities or stripping of vegetation. During construction, temporary ditch checks, perimeter erosion barrier, and inlet & pipe protection will be used to prevent the discharge of sediment.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Stone riprap will be placed at storm sewer and culvert outlets prone to erosion as well as at the Saratoga Creek and Valley Run Creek streambeds during the replacement of existing S.N. 032-0088 and S.N. 032-0089 in order to dissipate flow and prevent 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:

Riprap shall be placed at locations of high runoff velocities or concentrated flow points. In general, where closed drainage systems are implemented, drainage is ultimately conveyed to roadside ditches for water quality. Widened ditches have been provided for increased water quality/detention.

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:

All management practices, control and other provisions provided in this plan are in accordance with "IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION."

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:
- Vehicle Entrances and Exits – Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
 - Material Delivery, Storage and Use – Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
 - Stockpile Management – Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
 - Waste Disposal – Discuss methods of waste disposal that will be used for this project.
 - Spill Prevention and Control – Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
 - Concrete Residuals and Washout Wastes – Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
 - Litter Management – Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
 - Vehicle and Equipment Fueling – Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
 - Vehicle and Equipment Cleaning and Maintenance – Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
 - 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 manufacture's specifications.

(a) Perimeter Erosion Barrier –Barrier should be installed prior to any earth-disturbing activities. It is to have no tears or gaps and must not be leaning. Any stakes which are missing or broken must be replaced immediately. If the sediment reaches 1/3 the height of the barrier, maintenance or replacement is required. Repair the barrier if undermining occurs anywhere along its entire length. Remove the barrier once final stabilization is established.

(b) Temporary Ditch Checks – Sediment is to be removed from the upstream side of the ditch check when the sediment has reached 50% of the height of the structure. Ditch checks are to be replaced or repaired whenever tears, splits, unraveling, or compressed excelsior is apparent. Replace torn fabric mat that allow water to undermine ditch check. Remove debris when observed on the check. If water or sediment is going around the ditch check, maintenance may be required or installation may be flawed. If the ditch checks are floating, stakes may be installed incorrectly.

(c) Inlet Protection – Clean sediment or replace silt fence and straw bale inlet protection when sediment accumulates to one-third the height of the fabric. Remove trash accumulated around or on top of practice.

(d) Temporary Seeding – A visual inspection of this item is necessary to determine whether or not it has germinated. If the seed has failed to germinate, another application of seed may be necessary. If seed has been washed away or found to be concentrated in ditch bottoms, temporary mulch may have to be used to hold seed in place. Restore rills, greater than 4 inches deep, as quickly as possible on slopes steeper than 1V:4H to prevent sheet-flow from becoming concentrated flow patterns. If excessive weed development occurs, moving may be necessary.

(e) **Temporary Mulching** – *If straw is blown or washed away, or hydraulic mulch washes away, maintenance of this item will be required. Place tackifier or an erosion control blanket if mulch does not control erosion.*

(f) **Permanent Seeding** – *A visual inspection of this item is necessary to determine whether or not it has germinated. If the seed has failed to germinate, another application of seed may be necessary.*

(g) **Erosion Control Blanket** – *Repair when erosion control blanket curls or slides down a slope or is damaged due to water running beneath the blanket and restore blanket when displacement occurs. Reseeding may be necessary. Replace all displaced blankets and re-staple.*

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.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within 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.



Contractor Certification Statement

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	<u>FAP 326</u>	Marked Rte.	<u>IL Route 47</u>
Section	<u>(109, 110)R, 110BR & BR-1</u>	Project No.	<u>D-93-026-12</u>
County	<u>Grundy & Kendall</u>	Contract No.	<u>66B83</u>

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:

404 PERMIT



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

July 12, 2013

SN 032-0088 (Exist)
SN 032-0089 (Exist)
SN 032-0132 (Prop)
SN 032-0122 (Prop)
Contract # 66B83

Operations Division

SUBJECT: CEMVR-OD-P-2013-775 & 779

Mr. Paul Loete, P.E. – Region 2 Engineer
Illinois Department of Transportation
Division of Highways – District 3
700 East Norris Drive
Ottawa, Illinois 61350

Dear Mr. Loete:

Our office reviewed all materials in the applications received, May 9, 2013, concerning the proposed expansion of US IL 47 and bridge replacement over Valley Run Creek & Saratoga Creek near Morris, Illinois.

2013-775: Proposed expansion of US IL 47 from a two lane to a four lane roadway and the bridge replacement over Saratoga Creek, located 2 miles north of Morris, IL in Section 15, Township 34 North, Range 7 East in Grundy County, Illinois.

2013-779: Proposed expansion of US IL 47 from a two lane to a four lane roadway and the bridge replacement over Valley Run Creek and the permanent fill of 0.006 acres of palustrine emergent wetland, located 3.4 miles north of Morris, IL and in Section 9, Township 34 North, Range 7 East in Grundy County, Illinois.

Your projects are covered under Nationwide Permit No.14, as published in the enclosed Fact Sheet No. 7 (IL), provided you meet the permit conditions for the nationwide permits, which are also included in the Fact Sheet. The Corps has also made a determination of no effect on federally threatened and endangered species or critical habitat. The Illinois Environmental Protection Agency (IEPA) also issued Section 401 Water Quality Certification with conditions for this nationwide permit. Please note these additional conditions included in the Fact Sheet. The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision.

Special Conditions:

- 1.) You are encouraged to conduct your construction activities during a period of low flow. You are required to remove all fill material used as a temporary crossing to an upland, non-wetland site, to seed all disturbed areas with native grasses and to implement appropriate measures to insure that sediments are not introduced into waters of the United States during construction of this project.
- 2.) Bank and shoreline protection shall consist of suitable clean materials, free from debris, trash, and other deleterious materials. If broken concrete is used as riprap, all reinforcing rods must be cut flush with the surface of the concrete, and individual pieces of concrete shall not exceed 3 feet in any dimension. Asphalt and broken concrete containing asphalt are specifically excluded from this authorization.

-2-

These verifications are valid until March 18, 2017, unless the nationwide permit is modified, reissued or revoked. It is your responsibility to remain informed of changes to the nationwide permit program. We will issue a public notice announcing any changes if and when they occur. Furthermore, if you commence or are under contract to commence this activity before the date the nationwide permit is modified or revoked, you will have twelve months from this date to complete your activity under the present terms and conditions of this nationwide permit. If your project plans change, you should contact our office for another determination.

Our office has completed a Preliminary Jurisdictional Determination concerning your project area. A copy of our Preliminary Jurisdictional Determination is enclosed. A Preliminary Jurisdictional Determination is not appealable. **Please review, sign, date, and return the form to our office.**

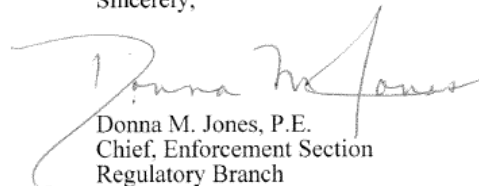
This authorization does not eliminate the requirement that you must still acquire other applicable Federal, state, and local permits. If you have not already coordinated your project with the Illinois Department of Natural Resources – Office of Water Resources, please contact them at 217/782-3863 to determine if a floodplain development permit is required for your project. You may contact the IEPA Facility Evaluation Unit at 217/782-3362 to determine whether additional authorizations are required from the IEPA. Please send any electronic correspondence to EPA.401.bow@illinois.gov.

You are required to complete and return the enclosed "Completed Work Certification" upon completion of your project, in accordance with General Condition No. 30 of the nationwide permits.

The Rock Island District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete the attached postcard and return it or go to our Customer Service Survey found on our web site at <http://per2.nwp.usace.army.mil/survey.html>. (Be sure to select "Rock Island District" under the area entitled: Which Corps office did you deal with?)

Should you have any questions, please contact our Regulatory Branch by letter, telephone or email to Mrs. Kirsten Brown at 309/794-5104 or Kirsten.L.Brown@usace.army.mil.

Sincerely,



Donna M. Jones, P.E.
Chief, Enforcement Section
Regulatory Branch

-3-

When the structure(s) or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s), of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date

Enclosures

Copies Furnished: (w/o enclosures)

Mr. Mike Diedrichsen, P.E.
Office of Water Resources
IL Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62701-1271 (w/o enclosures)

Mr. Dan Heacock
Illinois Environmental Protection Agency
Watershed Management Section, Permit Sec. 15
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
Epa.401.bow@illinois.gov (email copy)

Mr. Peter Frantz/Ms. Kathy Ames
Bureau of Location and Environment
Illinois Department of Transportation
Division of Highways
2300 South Dirksen Parkway
Springfield, Illinois 62754

U.S. Army Corps of Engineers
Illinois Waterway Project Office
257 Grant Street
Peoria, Illinois 61603

COMPLETED WORK CERTIFICATION

Permit Number: CEMVR-OD-P-2013-775

Name of Permittee: Illinois Department of Transportation (IL 47 over Saratoga Creek)

Date of Issuance: July 12, 2013

County/State: Grundy/Illinois

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Engineer District,
Rock Island
ATTN: Regulatory Branch
Clock Tower Building
Post Office Box 2004
Rock Island, Illinois 61204-2004

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above reference permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

KB

IDNR PERMIT



Illinois Department of Transportation

Division of Highways / District 3
700 East Norris Drive / Ottawa, Illinois / 61350-0697
Telephone 815/434-6131

STATEWIDE PERMIT NO. 12 CERTIFICATION


May 9, 2013

F.A.P. 326 (IL 47)
Section 110BR
Grundy County
SN 032-0089(Exist)/ 032-0122(Prop)
IL 47 over Saratoga Creek
Permit No. HYS12-004-2013

In compliance with the requirements of IDNR/OWR Statewide Permit #12, the District Registered Professional Engineer certifies the following:

The existing structure has not been the cause of demonstrable flood damages.

- ✓ There are no records or complaints of flood damages associated with the existing structure.
- ✓ There are no buildings or structures impacted by the backwater induced by the existing structure.
- ✓ There is no straightening, enlargement or relocation of the existing channel.


Illinois Registered Professional Engineer

Date 5-10-13



Illinois Department of Transportation

Division of Highways / District 3
700 East Norris Drive / Ottawa, Illinois / 61350-0697
Telephone 815/434-6131

STATEWIDE PERMIT NO. 12 CERTIFICATION

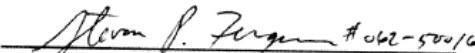
May 9, 2013

F.A.P. 326 (IL 47)
Section 110BR-1
Grundy County
SN 032-0088(Exist)/ 032-0123(Prop)
IL 47 over Valley Run Creek
Permit No. HYS12-003-2013

In compliance with the requirements of IDNR/OWR Statewide Permit #12, the District Registered Professional Engineer certifies the following:

The existing structure has not been the cause of demonstrable flood damages.

- ✓ There are no records or complaints of flood damages associated with the existing structure.
- ✓ There are no buildings or structures impacted by the backwater induced by the existing structure.
- ✓ There is no straightening, enlargement or relocation of the existing channel.


Illinois Registered Professional Engineer

Date 5-10-13

IEPA PERMIT

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2013-57831

PERMIT NO.: 2013-HB-57831

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: August 29, 2013

PREPARED BY: Chamlin and Associates, Inc.

SUBJECT: MORRIS - Illinois Route 47 Construction / Reconstruction
(City of Morris Sewage Treatment Plant) - Sanitary Sewer Permit

PERMITTEE TO CONSTRUCT

Illinois Department of Transportation
700 East Norris Drive
Ottawa, IL 61350

PERMITTEE TO OWN AND OPERATE

City of Morris
Municipal Service Building
700 Division Street
Morris, IL 604750

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows (quantities are approximate):

25 feet of 8 inch sanitary sewer and 11 manholes to serve existing flow (0 P.E., 0 GPD, DAF) located along Illinois Route 47 with discharge to an existing 15 inch sanitary sewer tributary to the above indicated sewage treatment plant.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: If this project is located within a wetlands, the U.S. Army Corps of Engineers may require a permit for construction pursuant to Section 404 of the Clean Water Act.

SPECIAL CONDITION 2: The Permittee to Construct shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activities associated with this project will result in the disturbance of one (1) 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.

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

SAK:GY:m:\w\pdocs\docs\permits\statecon\yilma\2013-57831.docx

DIVISION OF WATER POLLUTION CONTROL

cc: EPA-Des Plaines FOS
Chamlin and Associates, Inc.
Records - Municipal



Alan Keller, P.E.
Manager, Permit Section

READ ALL CONDITIONS CAREFULLY;
STANDARD CONDITIONS

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
 2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
 3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
 4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
 5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
 6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
 7. These standard conditions shall prevail unless modified by special conditions.
 8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.
-

WATER PERMIT

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 North Grand Avenue, East; Post Office Box 19276; Springfield, IL 62794-9276

Division of Public Water Supplies

Telephone 217/782-1724

PUBLIC WATER SUPPLY CONSTRUCTION PERMIT

SUBJECT: MORRIS (Grundy County-0630600)

Permit Issued to:
Mayor and City Council
Municipal Services Building, 700 Division Street
Morris, IL 60450

PERMIT NUMBER: 1196-FY2013

DATE ISSUED: July 31, 2013
PERMIT TYPE: Water Main

The issuance of this permit is based on plans and specifications prepared by the engineers/architects indicated, and are identified as follows. This permit is issued for the construction and/or installation of the public water supply improvements described in this document, in accordance with the provisions of the "Environmental Protection Act", Title IV, Sections 14 through 17, and Title X, Sections 39 and 40, and is subject to the conditions printed on the last page of this permit and the ADDITIONAL CONDITIONS listed below.

FIRM: Chamlin & Associates, Inc.
NUMBER OF PLAN SHEETS: 95
TITLE OF PLANS: "IL Rte 47 Roadway Construction/Reconstruction **SR**"

PROPOSED IMPROVEMENTS:

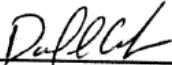
Installation of approximately 46 feet of 6-inch water main and 5,741 feet of 12-inch water main

ADDITIONAL CONDITIONS:

1. All water mains shall be satisfactorily disinfected prior to use. In accordance with the requirements of AWWA C651-99, at least one set of samples shall be collected from every 1,200 feet of new water main, plus one set from the end of the line and at least one set from each branch. Satisfactory disinfection shall be demonstrated in accordance with the requirements of 35 Ill. Adm. Code 652.203.
2. There are no further conditions to this permit.

DCC:MPH: dsa

cc: Chamlin & Associates, Inc.
Elgin Region



David C. Cook, P.E.
Acting Manager Permit Section
Division of Public Water Supplies

Illinois 47 (FAP 326)
State Section (110) R, BR & BR-1
Grundy County
(City of Morris, IL.)
C-93-049-12
Contract No. 66B83
Agreement No. 312010



DRAFT

AGREEMENT

This agreement is entered into between the State of Illinois through its Department of Transportation, hereinafter called the STATE and the city of Morris of Grundy County, Illinois, hereinafter called the CITY.

WHEREAS, to facilitate the free flow of traffic and ensure safety to the traveling public, the STATE and CITY are desirous of improving Illinois 47 (FAP 326), also referred to as Division Street within the city of Morris. Termini of the subject project is from a point approximately 0.40 mile (2,112 ft.) north of the north ramps of Interstate 80, beginning immediately north of the access drive to the Costco warehouse facility and extending northerly 4.47 miles to a point approximately 1,650 feet (0.31 mile) north of Sherrill Road/the Grundy-Kendall county line. Approximately 0.86 mile of the project lies within the city corporate limits of Morris, Illinois. The said project is identified under State Section (110) R, BR & BR-1, C-93-049-12, Contract No. 66B83 (see location map attached hereto as Exhibit No. 1).

WHEREAS, currently the subject portion of Illinois 47 consists of a variety of roadway cross sections. Existing pavement sections vary from two, to three or four lane widths, some areas having curb and gutter while the great majority of the highway being a rural type cross section consisting of two 12 foot wide traffic lanes, with gravel/sod shoulders and open roadside drainage ditches.

WHEREAS, in general, the subject project involves reconstructing the existing two lane Illinois 47 to a minimum four lane pavement section with 12 foot wide shoulders. An urban type curb and gutter pavement will be constructed on the south end of the project transitioning into a rural type pavement section at the northern sector. Additional turn lanes will also be constructed at various locations along Illinois 47 where turning movements warrant supplemental turn lanes.

WHEREAS, one purpose of this agreement is to provide a general description to the scope of work proposed with the subject project. All desired specific details of type of work, locations, dimensions, elevations, items quantities, materials, etc. are to be obtained from the related design plan sheets which serve as a supplement to this agreement. The said plans have been provided to the CITY for its review and concurrence. Additional purposes of this agreement are to provide estimated cost, local ordinances, cite cost participation, between the STATE and the CITY, appropriation of funding, commitments to payments, defining jurisdictional and maintenance responsibilities of various roadways, utilities and appurtenances relating to the subject roadway project.

WHEREAS, the CITY did provide preliminary engineering, which included the surveying and preparation of plans for the relocation of city utilities. City utilities presently exist within a city owned easement. Such the case, required relocation of these utilities onto new easement is at 100 percent STATE cost. The STATE agrees to reimburse the CITY for the CITY's rendering preliminary engineering services for the relocation of utilities. Determination of the said reimbursement shall be in the form of credit to be charged against the CITY's total of other cost obligations it is to assume for improvements included in this contract. The CITY's reimbursement is the sum of \$68,159 as provided by the city engineering consultant.

WHEREAS, the CITY is desirous of the said improvements to Illinois 47 in that same will be of immediate benefit to CITY residents and permanent in nature.

WHEREAS, the subject project will include the following work:



- A. Reconstruction of Mainline Illinois 47 to a Four Lane Urban Type Curb and Gutter Pavement Section (100 percent STATE Cost) - Illinois 47 is to be reconstructed from a two into a four lane concrete curb and gutter urban type pavement section, beginning immediately north of the access drive serving the Costco warehouse facility and extending northerly 2.95 miles to Valley Run Creek (located approximately 0.63 mile) north of Airport Road. The new roadway will be 108 feet in width (face to face of curb), consisting of two 12 foot wide through lanes for each direction of traffic, a 32 foot wide raised concrete median and 12 foot wide shoulders, consisting of 8 foot concrete, two feet aggregate and two feet earth. Storm sewer will be also be provided to serve the drainage needs of the roadway. Additional 12 foot wide turn lanes will be constructed at intersections were turning movements warrant supplemental lanes.
- B. Reconstruction of Mainline Illinois 47 to a Four Lane Rural Type Pavement Section. (100 percent STATE Cost) - Illinois 47 is to be reconstructed from a two into a four lane concrete pavement rural type pavement section, beginning at Valley Run Creek and extending northerly approximately 1.52 miles (8,000 ft.) to the north end of the project (0.31 mile north of Sherrill Road/Grundy-Kendall county line). The new roadway will be 104 feet in width, consisting of two 12 foot wide through lanes for each direction of traffic, and 12 foot wide outside shoulders, consisting of being 8 foot concrete, two feet aggregate and two feet of earth shoulders. A 32 foot wide grass median will be provided. A combination 2 foot concrete/6 foot aggregate inside shoulder is proposed in addition to cable barriers being placed within the median. Open roadside ditches will provide drainage for the roadway.
- C. Reconstruct Portions of Intersecting Local Roads (100 Percent STATE Cost to STATE Standard Design Thickness) - The widening of Illinois 47 will necessitate the reconstruction of portions of local roads at their intersection with the state highway. Local pavement will be widened and reconstructed at different elevations to properly match the new pavement of Illinois 47. The STATE will assume 100 percent cost of reconstruction up to and not beyond the STATE's standard pavement design. The extent of proposed work on each of the affected local roads is as follows.
 - Prologis Parkway: From Illinois 47 and extending approximately 200 feet to the west.
 - Granville Road: From Illinois 47 and extending easterly approximately 700 feet where it tapers back to an existing 2 lane pavement.
 - Nelson Road: From Illinois 47 and extending westerly approximately 300 feet to the where it tapers back to the existing 2 lane pavement.

- Airport Road: From Illinois 47 and extending approximately 900 feet to the west.
- Minooka Road: Extending approximately 500 feet to the west and 500 feet east of Illinois 47.
- Sherrill Road (County Hwy C 16): From Illinois 47 and extending approximately 812 feet to the west and 700 feet east of the Illinois 47.

With the lone exception of Prologis Parkway, all affected local roads will be widened from their existing two 10 foot wide through lanes to three 12 foot wide lanes with the addition of a third left turn lane. The pavements are to be reconstructed with 6 to 12 inches granular subbase, 5-1/2 inches of hot mix sub-base and 2 inches of hot mix asphalt surface course. Eight foot wide shoulders (3 foot hot mix asphalt/5 foot aggregate will be provided. All reconstructed legs of the local roads will consist of one 12 foot wide through lanes for each direction of traffic and one 12 foot wide left turn lane. Turning radii will be widened on all local roads legs intersecting Illinois 47. Regarding Prologis Parkway, 2-1/2 inches of existing surface asphalt will be milled and replaced with 2-1/2 of new hot mix asphalt.

D. Increase of Pavement Thickness on legs of Granville and Airport Roads Intersecting Illinois 47 (All thickness over and above state standard pavement design is 100 percent CITY cost.) - As cited in above provision "C" the STATE will assume 100 percent cost to reconstruct all legs of local roads which are impacted by the STATE's widening/reconstruction of Illinois 47. The STATE's 100 percent cost obligation is limited to the STATE's standard pavement design. At the formal request of the CITY, pavement thickness will be constructed to a greater thickness than the STATE's standard pavement design. The CITY desires to upgrade the pavement thickness on the legs of Granville and Airport Roads so to accommodate future development of these locales and the added traffic volumes it will generate. Variable amounts of extra hot mix asphalt (HMA) will be added to achieve the thicknesses requested by the CITY. The CITY will assume 100 percent cost of all quantities of HMA that exceed the STATE's standard pavement design. The STATE's standard design thickness, the CITY's requested added thicknesses, the percent of extra HMA quantities, and the affected local roads are as follows.

<u>Local Road</u>	<u>State Design Thickness</u>	<u>City's Requested Thickness</u>	<u>Extra Tons of HMA @ 100% City Cost</u>
Granville Road	8.00"	9.75"	13.5%
Airport Road	7.25"	11.25"	35.5%

E. Replacement of Traffic Signals at Prologis Drive and Combination Roadway Lighting Units (100 CITY Cost) - Existing traffic signals at Prologis Drive are designated as "private benefit" in nature. Consequently replacement of the signals is at 100 percent CITY cost. Combination roadway lighting units will also be provided as 100 percent CITY cost

F. New Traffic Signals and Combination Roadway Lighting Units at the Intersection of Illinois 47 and Granville Road/Access Drive to Saratoga Elementary School (100 Percent STATE Cost) - New traffic signals and combination roadway lighting units will be constructed at the intersection of Illinois 47 and Granville Road. The intersection will be constructed to provide proper alignment of the east leg of Granville Road and the west leg which will function as an access drive serving traffic generated by the Saratoga Elementary School.

- G. Combination Roadway Lighting at Prologis Parkway and Granville Road (100 Percent CITY Cost) - The existing roadway lighting will be replaced in conjunction with the traffic signals at the two intersections of Prologis Drive and Granville Road. Combination lighting will be attached to extended traffic signal poles. Two combination lighting units will be provided at each the Prologis Parkway and Granville Road intersections.
- H. Emergency Pre-emption Units (100 Percent CITY Cost) - Emergency pre-emption units will be incorporated with the traffic signals at Prologis Drive and Granville Road/Saratoga School access drive intersections.
- I. Free Standing Roadway Lighting (100 Percent CITY Cost) - Twenty six free standing roadway lighting units are to be constructed along a 0.74 mile portion of Illinois 47, beginning at a point approximately 500 feet south of the access drive to the Costco warehouse facility and extending northerly to a point 1,000 feet north of Prologis Parkway. Free standing light poles will be omitted at Prologis Parkway and Granville Road since combination roadway lighting will be provided.
- J. Sidewalk (80 Percent STATE/20 Percent CITY Cost) - Five foot wide concrete sidewalk will be constructed on the west side of Illinois 47, from Prologis Parkway northerly approximately 1,360 feet to the south entrance to Saratoga School.
- K. Replacement of Two Structures (100 Percent STATE Cost) - Two structures are to be removed and replaced as part of the reconstruction of Illinois 47. The two structures are #032-0089 spanning Saratoga Creek, located 0.40 mile north of Nelson Road and #032-0088 spanning Valley Run, located 0.36 mile south of Saratoga Road. Both bridges will be replaced with new wider single structures having a horizontal clearance width of 108 feet which will accommodate the widened Illinois 47.
- L. Utility Relocation (100 Percent STATE Cost) - A large portion of CITY utility is currently located within city owned easements. Consequently, the STATE assumes all cost of relocating all water and sanitary utilities located within easements as determined necessary to complete the reconstruction of Illinois 47.
- M. Relocation of CITY Utilities Located Within the STATE's Existing Right of Way (100 Percent CITY Cost) - There exists some portions of CITY owned utilities, located within the STATE's right of way and requiring relocation. These utilities (located at the southeast quadrant of Granville Road, near Nelson Road and Saratoga Cemetery) will be moved at 100 percent CITY cost. Included in the relocation of water main is a 12 inch water main casing.
- N. Land Acquisition (100 Percent STATE Cost) - The STATE assumes all cost for the acquisition of all additional right of way required for the subject project.

All other work necessary to complete this project will be performed in accordance with the approved related plans and specifications.

WHEREAS, the CITY is desirous of the said project in that same will be of immediate benefit to CITY residents and permanent in nature.

WITNESSETH:

NOW THEREFORE, in consideration of the mutual covenants contained herein, the parties agree as follows:

1. The STATE agrees to make the surveys, prepare plans and specifications, obtain the necessary rights of way, receive bids and award contracts, furnish engineering inspection during construction and cause the improvement to be built in accordance with the approved plans, specifications and contract.
2. The CITY agrees to survey and prepare the plans for the relocation of city utilities to which the City will be reimbursed by the STATE for such work.
3. The STATE agrees to pay all right of way, utility construction and engineering costs, subject to reimbursement by the CITY as hereinafter stipulated in the following cost table.

<u>Work Item</u>	<u>Total Cost</u>	<u>Federal</u>	<u>State</u>	<u>City</u>
Mainline IL 47 Construction (Widening to Four & Five Lanes Including Curb & Gutter, Storm Sewer & Bridges	\$38,000,000	\$30,400,000 (80%)	\$7,600,000 (20%)	\$0
Traffic Signals: IL 47 @ Prologis Parkway (Private Benefit)	*\$324,000	\$0	\$0	*\$324,000 (100%)
Combination Roadway Lighting IL 47 @ Prologis Parkway	\$10,000	\$0	\$0	\$10,000 (100%)
Traffic Signals: IL 47 @ Granville Road	\$250,000	\$200,000 (80%)	\$50,000 (20%)	\$0
Combination Roadway Lighting: IL 47 @ Granville Road	\$10,000	\$8,000 (80%)	\$2,000 (20%)	\$0
26 Free Standing Roadway Lighting Units	\$605,000	\$0	\$0	\$605,000 (100%)
Emergency Pre-Emption Units at Prologis Parkway & Granville Road	\$10,000	\$0	\$0	\$10,000 (100%)
Upgrading of Granville & Airport Roads With Extra HMA	\$53,000	\$0	\$0	\$53,000 (100%)
Five Foot Wide Concrete Sidewalk	\$52,000	\$41,600 (80%)	\$0	\$10,400 (20%)
State's Relocation of Water & Sanitary Sewer	\$530,000	\$424,000 (80%)	\$106,000 (20%)	\$0
City Water Main	\$52,000	\$0	\$0	\$52,000 (100%)



<u>Work Item</u>	<u>Total Cost</u>	<u>Federal</u>	<u>State</u>	<u>City</u>
Subtotal	\$39,896,000	\$31,073,600	\$7,758,000	\$1,064,400
Engineering (15%)	\$5,984,400	\$4,661,440	\$1,163,700	\$159,660
Land Acquisition	\$3,000,000	\$0	\$3,000,000 (100%)	\$0
Lump Sum Credit to CITY for Utility PE		\$0	\$68,159	(-\$68,159)
Total	\$48,880,400	\$35,734,640	\$11,989,859	\$1,155,901
			Say	\$1,156,000



DRAFT

- * The CITY's share of cost for traffic signal installation at the Illinois 47 and Prologis Parkway intersection will not exceed 125 percent of the total estimated local share cost of \$324,000, plus a 15 percent charge for engineering. (NOTE: The 125 percent maximum cost applies only to traffic signals and no other items of this contract that the CITY is to share in costs). Costs of combination roadway lighting is above the STATE's standard of traffic signals. Consequently, the mast arms, controller, cables, luminaries, emergency and pre-emption units are at 100 percent CITY cost and not a part of the 125 percent provision.
4. The CITY's cost participation shall be predicated on the percentage proration shown in the above cost table for the specified work. The CITY's cost shall be determined by multiplying the final quantities times the awarded contract unit prices, plus the additional 15 percent charge for preliminary and construction engineering.
 5. The STATE agrees to apply a predetermined lump sum of \$68,159 as credit against the CITY's total share of cost participation, estimated at \$1,156,000. The credit serves as reimbursement to the CITY for its services rendered in providing surveying and preparation of preliminary engineering plans for the relocation of CITY utilities. lump sum credit of \$68,159 is based upon cost invoices provided by the CITY's consulting engineer.
 6. The CITY agrees that upon receipt of the first and subsequent progress payments made to the STATE's contractor, the CITY will pay the Department of Transportation of the state of Illinois, from funds allotted to the CITY, an amount equal to the CITY's share of \$1,156,000, divided by the estimated construction cost, \$39,896,000, multiplied by the actual progress payments made to the contractor until the entire obligation incurred under this agreement has been paid.
 7. The CITY agrees to pass and approve a resolution appropriating \$1,156,000 to reimburse the STATE for the CITY's share of the cost of work described in the provisions of this agreement and cited in the related project design plans. A copy of the resolution is attached hereto as Exhibit #2 and a part hereof.
 8. It is mutually agreed that all new, relocated and adjusted utilities impacted by the road work will remain the jurisdiction of the CITY.

9. The CITY agrees to obtain all necessary EPA permits and provide or cause to provide necessary field inspection of the placement of all new water main related service lines and sanitary lines and coordination with STATE personnel, residents and businesses affected by the proposed water main/sanitary sewer work, at no cost to the STATE. The CITY further agrees to have its representative present and observe the contractor's hydrostatic and disinfectant testing of water main and related appurtenances, at no cost to the STATE.
10. The CITY agrees to exercise its franchise rights to cause private utilities to be relocated at no expense to the STATE.
11. The CITY agrees that upon completion of the project to maintain all storm sewers and appurtenances by performing those functions necessary to keep the sewer in serviceable condition, including cleaning sewer lines, inlets, manholes, catch basins along with repair and/or replacement of inlet, manhole and catch basin frames, grates or lids. The CITY further agrees to repair and/or reconstruct structural failures to a maximum of 12 feet between adjacent manholes.
12. The STATE agrees to assume responsibility for repairs and/or reconstruction of storm sewer system that exceeds the routine maintenance requirements of the CITY, as cited in the above paragraph.
13. The CITY agrees that no future storm sewer connection or additional water discharge will be added to the storm sewer system that is being constructed as part of this project. The CITY agrees to obtain a permit from the STATE prior to routing any additional discharge to storm sewer capacity constructed as part of this contract.
14. Upon final inspection of the improvement and so long as IL 47 (Division Street) remains and is used as a state highway, the STATE agrees to retain jurisdiction and will maintain or cause to be maintained all traffic lanes and curb and gutter that adjoins these traffic lanes, and any stabilized shoulders and/or roadside drainage ditches that serve the state highway.
15. Upon final field inspection of the subject project, the CITY agrees to maintain or cause to be maintained those portions of the improvement which are not maintained by the STATE. The CITY agrees to maintain all areas behind the roadway curb, including sidewalks, ramped sidewalks (including retaining wall of ramps), railings, parkways, grass medians, guardrails, crosswalks, stop lines, fencing, etc. Further, all repair and/or replacement of signing serving traffic exiting private/commercial access drives are the sole responsibility of the CITY.
16. It is mutually agreed that the CITY and STATE both recognize that, by IDOT policy, STATE mowing requirements of any section of state roadway are at a minimum of two mowings annually. Consequently, the STATE hereby grants the CITY authorization to mow medians and grass areas behind the curbs as often as the CITY deems desirable, appropriate, or necessary. The CITY is to conduct mowing operations along this subject section of Illinois 47 as in the same manner as CITY forces currently provide along areas of other sections of state highways located within the CITY.
17. Upon acceptance by the STATE of the new traffic signal installations, the financial responsibility for the maintenance and electrical energy for the operations of the traffic signals and combination roadway lighting units shall be proportioned as follows:

Intersection	Level of Service	Maintenance	Electrical Energy
IL 47 @ Granville Road/Saratoga School Access Drive:			
Traffic Signals	I	State - 50% City - 50%	State - 50% City - 50%
Combination Roadway Lighting		State -0% City - 100%	State -0% City - 100%
IL 47 @ Prologis Parkway:			
Traffic Signals	I	State - 0% City - 100%	State - 0% City - 100%
Combination Roadway Lighting		State - 0% City - 100%	State - 0% City - 100%


18. Upon acceptance by the STATE of the traffic signal work and roadway lighting included herein, the responsibility for maintenance and energy shall be as amended to the master agreement executed by the STATE and the CITY on April 8, 2011. Similar to other traffic signals, the CITY will bill the STATE for reimbursement of maintenance and energy.
19. The CITY agrees that all freestanding roadway lighting units and combination roadway lighting at Prologis Parkway are the jurisdiction of the CITY. The CITY assumes all maintenance and energy costs for all roadway lighting that is to be constructed as part of this project.
20. The CITY agrees to adopt and put into effect an ordinance regulating encroachment along both state highways and city owned streets and alleys. A copy of the ordinance is attached hereto as Exhibit #4.
21. The CITY agrees to adopt and put into effect, prior to the state's advertisement of work to be performed hereunder, an ordinance prohibiting discharge of sanitary sewage and industrial waste water into any storm sewers. A copy of the of the ordinance is attached hereto as Exhibit #5.
22. The CITY agrees to adopt and put in effect, prior to the state advertising of work to be performed hereunder, a parking ordinance prohibiting parking on both sides of IL 47 (Division Street) from Interstate 80 northerly to the CITY's north corporate limits. A copy of the parking ordinance is attached hereto as Exhibit #3.
23. The CITY agrees to provide written approval of the plans and specifications relating to this project. The CITY's written approval is required prior to the STATE's advertising for the aforescribed improvements.
24. The STATE agrees to invite representatives of the CITY to mutually inspect the completed project prior to the STATE's approval of work.

25. The STATE and CITY agree that in the event any work is performed by other than CITY and/or STATE forces, the provision of "an act regulating wages of laborers, mechanics and other workers employed in public works by the state, city, county or any public body or political subdivision or anyone under contract for public works" (Illinois Compiled Statute, 820 ILCS 130/1) shall apply.
26. The STATE and CITY, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this agreement. The STATE and CITY shall carry out applicable requirements of 49 CFR, part 26 in the award and administration of STATE assisted contracts. Failure by the STATE to carry out these requirements is a breach of this agreement, which may result in the termination of this agreement or such remedy as the STATE deems appropriate. Obligations of the STATE and CITY will cease immediately without penalty or further payment being required if, in any fiscal year, the Illinois General Assembly or federal funding sources fail to appropriate or otherwise make available funds for this contract.
27. It is mutually agreed that if any provision of this agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provisions of this agreement is invalid or unenforceable, but that by limiting such provision the agreement becomes valid and enforceable, then such provision shall be deemed to be written, construed and enforced as so limited.
28. This agreement and the covenants herein shall be null and void in the event that the contract covering the construction work contemplated herein is not awarded within five years subsequent to execution of this agreement.
29. This agreement shall be binding upon and inure to the benefit of the parties hereto, their successors and assigns.


This agreement is passed and approved by the Council of the city of Morris of Grundy County, Illinois, this _____ day of _____, 2013.

Approved

Attest



Richard Kopczick, Mayor of Morris




John D. Enger, City Clerk

Date

Date

Illinois Department of Transportation



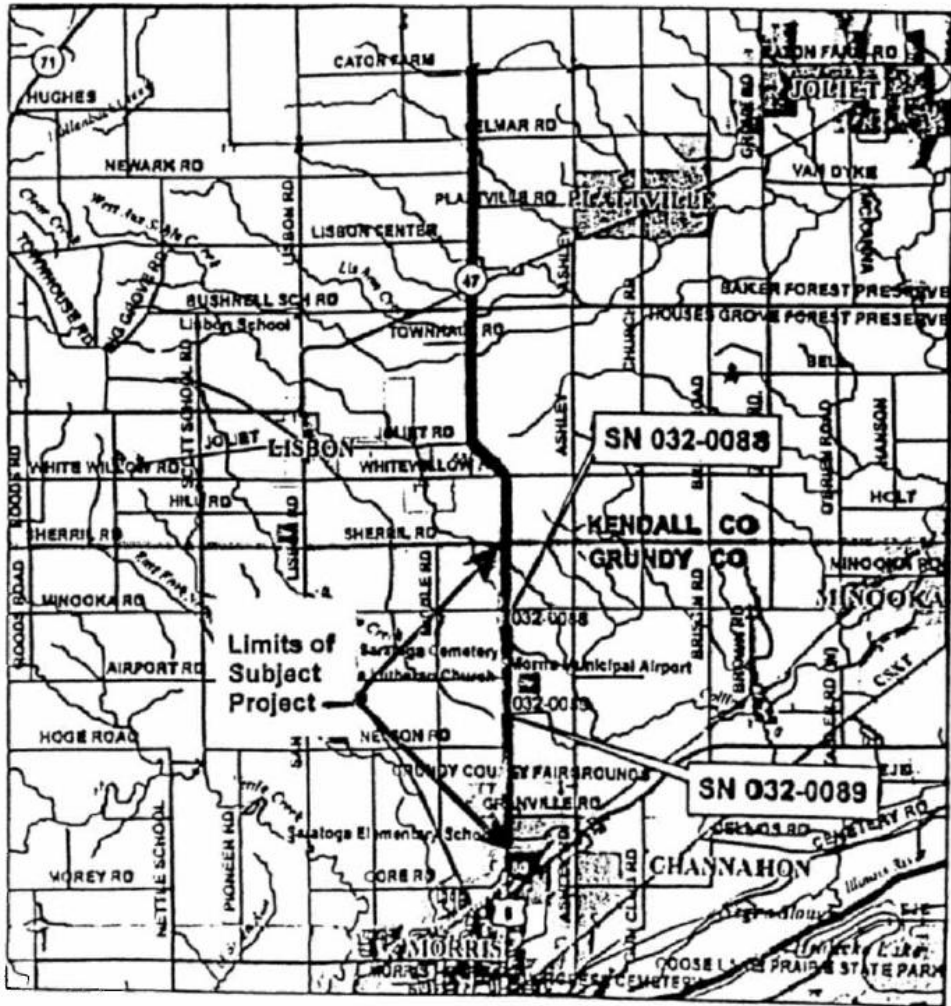
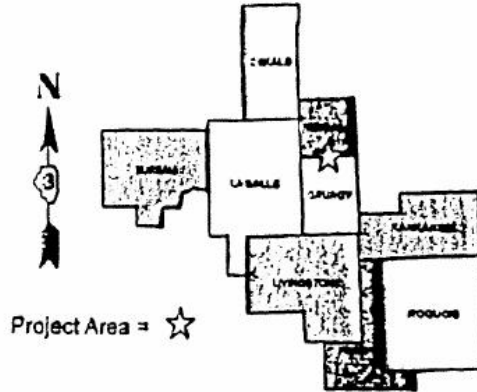
Omer Osman, P.E.
Director of Highways
Chief Engineer

IL 47 (FAP 326)
Sect. (110) R, BR & BR-1
C-93-049-12
Contract No. 66B83

EXHIBIT NO. 1

Location Map

Illinois 47 (FAP 326)
 Section (110) R, 110 BR & BR-1
 Grundy County
 (From 0.40 mile North of I-80
 Northerly 4.47 mile to Grundy-
 Kendall County Line)
 Contract 66B83
 C-93-049-12





DRAFT

EXHIBIT 3

ORDINANCE NO. _____

REGULATING PARKING ON ILLINOIS 47 (DIVISION STREET) IN MORRIS
(FROM INTERSTATE 80 NORTHERLY TO NORTH CORPORATE LIMITS OF MORRIS))

WHEREAS, the city of Morris of Grundy County, Illinois has entered into an agreement with the State of Illinois for the improvement of Illinois 47 (FAP 326), Section (110)R, BR, BR-1, Job No. C-93-049-12, Contract 66B83. The said project involves the reconstruction Illinois 47 from an existing two lane facility to a five lane roadway.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and City Council of the city of Morris, Grundy County, Illinois regarding:

- That parking will be prohibited along both sides of Illinois 47 (Division Street) from Interstate 80 northerly 1.25 miles to the north corporate limits of Morris.

SECTION 1: That in order to provide the health, safety, and welfare of its citizens, parking will be prohibited at both locations:

SECTION 2: Any person, firm, or corporation violating the provisions of this ordinance shall be fined not less than \$_____ nor more than \$_____ for each offense.

SECTION 3: The CITY will enact further ordinances requiring parking restrictions at locations immediately adjacent to the improvement as may be determined to be necessary by the STATE from results of traffic capacity studies when construction of the above described state section has been completed and the highway has resumed normal operations.

SECTION 4: This ordinance shall be in full force and effect from and after its passage, approval, and publication in pamphlet form, as provided by law.

PASSED by the City Council of Morris, Grundy County, Illinois, this day of _____, 2013.

APPROVED

STATE OF ILLINOIS)
)
CITY OF MORRIS)

Richard Kopczick
Mayor of Morris

I, John D. Enger, City Clerk, in and for the city of Morris, hereby certifies the foregoing to be a true, perfect, and complete copy of the resolution adopted by the Morris City Council at a meeting on _____, 2013.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this _____ day of _____, 2013.

Date

John D. Enger
City Clerk



DRAFT

EXHIBIT 4
Page 1 of 2

ORDINANCE NO. _____

AN ORDINANCE REGULATING ENCROACHMENT ON PUBLIC
RIGHT OF WAY IN THE CITY OF MORRIS OF GRUNDY COUNTY, ILLINOIS

WHEREAS, the city of Morris of Grundy County, hereinafter known as the CITY, and the state of Illinois, acting by and through its Department of Transportation, Division of Highways, hereinafter known as the STATE, have entered into an agreement relative to the improvement of Illinois 47 (FAP 326), also known as Division Street from 0.40 mile north of the north ramps of Interstate 80 at the access drive to the Costco warehouse facility to 0.31 mile north of the Grundy-Kendall County line. Of the total 4.47 mile project length, 0.86 mile is located within the city of Morris.

WHEREAS, in order to facilitate said improvement, it is necessary for the CITY to adopt an ordinance regulating encroachments on the right of way within the city from Interstate 80 northerly 1.25 miles to the north corporate limits of Morris in accordance with the following definition:

Roadway Right of Way is defined as those areas existing or acquired by dedication or by fee simple for highway purposes; also, the areas acquired by temporary easement during the time the easement is in effect;

Project Right of Way is defined as those within the project right of way lines established jointly by the City, State, and the Federal Highway Administration which will be free of encroachments except as hereinafter defined;

Encroachment is defined as any building, fence, sign (excluding certain signs located over sidewalks), or any other structure or object of any kind (with the exception of utilities and public road signs), which is placed, located, or maintained in, on, under, or over any portion of the project right of way or the roadway right of way where no project right of way line has been established.

Permissible Encroachment is defined as any existing awning, marquee, advertising sign, or similar overhanging structure supported from a building immediately adjacent to the limits of the platted street where there is a sidewalk extending to the building line and which does not impair the free and safe flow of pedestrian traffic and traffic on the highway. The permissive retention of overhanging signs is not to be construed as being applicable to those signs supported from poles constructed outside the project right of way line and not confined by adjacent buildings.

Construction Easement Area is defined as area lying between the project right of way limits and the platted street limits within which the CITY, by concurrence in the establishment of the project right of way lines, will permit the STATE to enter to perform all necessary construction operations; and

WHEREAS, representatives of the CITY and the STATE have cooperatively established project right of way lines and have mutually determined the disposition of encroachments.

NOW, THEREFORE, BE IT ORDAINED by the city of Morris of Grundy County, Illinois:

Section 1: It shall be unlawful for any person, firm, or corporation to erect or cause to be erected, to retain or cause to be retained, any ENCROACHMENT (herein above defined), within the limits of the project right of way or roadway right of way where no project right of way lines have been established.

Section 2: This ordinance is intended to and shall be in addition to all other ordinances, rules, and regulations concerning encroachments and shall not be construed as repealing or rescinding any other ordinance or part of any ordinance unless in direct conflict therewith.

Section 3: Any person, firm, or corporation violating this ordinance shall be fined not less than _____ Dollars (\$ _____) nor more than _____ Dollars (\$ _____) for each offense, and a separate offense shall be deemed committed for each and every day during which a violation continues or exists.

Section 4: This ordinance shall be published one time within ten days after its passage in a newspaper having a general circulation in the city of Morris, Illinois, and shall be in full force and effect after its passage, publication, and approval as provided by law.

PASSED by the City Council of Morris, Grundy County, Illinois, this day of _____, 2013.

APPROVED

STATE OF ILLINOIS)

CITY OF MORRIS)



DRAFT

Richard Kopczyk
Mayor of Morris

I, John D. Enger, City Clerk, in and for the city of Morris, hereby certifies the foregoing to be a true, perfect, and complete copy of the resolution adopted by the Morris City Council at a meeting on _____, 2013.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this _____ day of _____, 2013.

Date

John D. Enger
City Clerk

EXHIBIT 5

ORDINANCE NO. _____

ORDINANCE PROHIBITING THE CONNECTION OF SANITARY
OR WASTE SEWERS TO STORM DRAINAGE SYSTEMS

BE IT ORDAINED, by the city of Morris of Grundy County, Illinois:

Section 1. It shall be unlawful for any person, firm, corporation, or institution, public or private, to connect or cause to be connected, any drain carrying, or to carry, any toilet, sink, basement, septic tank, cesspool, industrial waste, or any fixture or device discharging polluting substances to any open ditch, drain, or drainage structure installed solely for street or highway drainage purposes along Illinois 47, also known as Division Street from interstate 80 northerly 1.25 miles to the north corporate limits of Morris.

Section 2. This ordinance is intended to and shall be in addition to all other ordinances, State statutes, rules, and regulations concerning pollution and shall not be construed as repealing or rescinding any other ordinance or part of any ordinance unless in direct conflict herewith.

Section 3. Any person, firm, or corporation violating this ordinance shall be fined not less than _____ Dollars (\$ _____), more than _____ Dollars (\$ _____) for each offense, and a separate offense shall be deemed committed for each and every day during which a violation continues or exists.

APPROVED

STATE OF ILLINOIS)
)
CITY OF MORRIS)



DRAFT

I, John D. Enger, City Clerk, in and for the city of Morris, hereby certifies the foregoing to be a true, perfect, and complete copy of the resolution adopted by the Morris City Council at a meeting on _____, 2013.

Richard Kopczick
Mayor of Morris

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this _____ day of _____, 2013.

Date

John D. Enger
City Clerk

LETTER OF UNDERSTANDING



Illinois Department of Transportation

Division of Highways / Region 2 / District 3
 700 East Norris Drive / Ottawa, Illinois / 61350-1628
 Telephone 815/434-6131

July 30, 2013

Mr. Homer Ellis
 Saratoga Township Highway Commissioner
 1730 W. Airport Road
 Morris, IL 60450

Letter of Understanding
 IL 47 (FAP 326)
 Section (110)R, 110BR & BR-1
 Grundy County
 Contract No. 66B83
 (Township Roads Affected by Reconstructed IL 47)

RECEIVED STUDIES & PLANS AUG 8 '13		
S&P ENG		
ENVIRONMENT		
ESTIMATOR		
GEOMETRICS		
HYDRAULICS		
LOCATIONS	X	CR
PLANS ENG		
SEE ME		
SEC	W	S
CO-ORD		

Dear Mr. Ellis:

The Illinois Department of Transportation, District 3 office in Ottawa (IDOT), is near completion of its design plans for the proposed reconstruction of IL 47 north of Morris, Illinois. Termini of the subject project is from a point approximately 0.40 mile (2,112 feet) north of the north ramps of Interstate 80 (at the Costco warehouse facility) and extending northerly 4.47 miles to a point approximately 0.31 mile north of Sherrill Road at the Kendall-Grundy County Line. See attached location map.

In general, the proposed project involves reconstructing IL 47 to a minimum four lane pavement section with 12 foot wide shoulders. An urban type curb and gutter pavement will be constructed on the south end of the project transitioning into a rural type pavement section at the north sector. Additional turn lanes will also be constructed at various locations along IL 47 where turning movements warrant supplemental turn lanes.

The widening of IL 47 will necessitate the reconstruction of portions of local roads at their intersection with the state highway. Local pavement will be widened and reconstructed at different elevations to properly match the new pavement of IL 47. Turn radii will also be increased. The state will assume 100 percent cost of reconstruction up to and beyond IDOT's standard pavement design. Three roads intersecting IL 47 and currently under the jurisdiction of Saratoga Township Road District will be affected. These roads are as follows:

- Minooka Road (Township Road 3B) – Extending approximately 500 feet both east and west of IL 47.
- Airport Road (Township Road 9) – From IL 47 and extending 900 feet to the west.
- Nelson Road (Township Road 15) – From IL 47 and extending westerly approximately 300 feet.

Mr. Homer Ellis
July 30, 2013
Page 2

All affected township roads will be widened from their existing two 10 foot wide through lanes to three 12 foot wide lanes with the addition of a left turn lane. The pavements will be reconstructed with 6 to 12 inches granular subbase, 5-1/2 inches of hot mix subbase and 2 inches of hot mix asphalt surface course. At the request of the city of Morris, an upgraded 9 1/4 inches of subbase hot mix asphalt will be added to Nelson Road. The city will assume all subsequent additional costs. Eight foot wide shoulders (3 foot hot mix asphalt/5 foot aggregate) will be provided. All reconstructed legs will consist of one 12 foot wide lane for each direction of traffic and one 1 foot wide left turn lane. These township roads will need to be closed to traffic during their reconstruction. The roads will not all be closed at one time. Instead, road closures will be staggered so to minimize lengths of detour routings. Closure for each township road will be 30 days or less.

Attached for your review and approval are design sheets illustrating the proposed reconstruction of Minooka, Airport, and Nelson Roads, all under the jurisdiction of the Saratoga Township Road District. Be advised that all three of these roads will remain under the jurisdiction of Saratoga Township at all times during and upon completion of their reconstruction. You will be invited to attend a preconstruction meeting for this project which will be held at the IDOT District 3 office in Ottawa. Your attendance or that of another representative of Saratoga Township is optional. A representative of IDOT will invite you to field inspect the new roadway prior to the state's final acceptance of the completed project.

You will note that two copies of this letter have been provided. After your review of plans, please mark the appropriate box found on the next page and affix your signature to the line provided. Please return one copy of this letter with your required original signature to the IDOT District 3 office in Ottawa.

Your assistance in this matter is appreciated. If you have any questions, please contact Craig Reed of this office at 815-434-8420. Thank you.

Sincerely,

Paul A. Loete, P.E.
Deputy Director of Highways,
Region Two Engineer



By: Dan L. Mestelle, P.E.
Program Development Engineer

cc: Craig Cassem, PE – Grundy County Engineer

Mr. Homer Ellis
July 30, 2013
Page 3

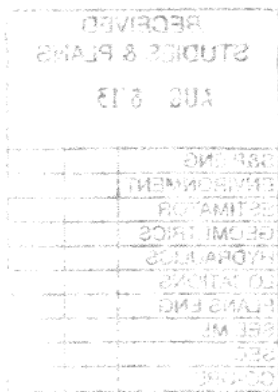
- Saratoga Township Road District has reviewed the plans for the proposed reconstruction of Minooka, Nelson, and Airport Roads at their intersections with IL 47 and concurs with the proposed work as illustrated in the provided plans. Furthermore, Saratoga Township Road District agrees to retain its jurisdiction of those portions of Minooka, Nelson and Airport Roads affected by the reconstruction of IL 47.

- Saratoga Township Road District has reviewed the plans for the proposed reconstruction of Minooka, Nelson, and Airport Roads at their intersections with IL 47 and has the following concerns.

Please contact the Saratoga Township Highway Commissioner at _____
_____.


Homer Ellis
Saratoga Twp. Hwy. Commissioner

8/13/2013
Date



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 15th 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 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. **66B83** (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. **66B83**], 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****

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.